DUNDEE CANALL INDUSTRIAL HISTORIC DISTRICT
Beginning at George Street in Passaic and extending north along the Dundee Canal for approximately 1.2 miles to the canal headgates opposite East Clifton Avenue in Clifton
Passaic
Passaic County
New Jersey

HAER No. NJ-131

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORICAL AMERICAN ENGINEERING RECORD
National Park Service
U.S. Custom House
200 Chestnut Street
Philadelphia, PA 19106

HAER
NJ
16-PASA,
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HISTORIC AMERICAN ENGINEERING RECORD

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Location Beginning at George Street in Passaic and extending north along the Dundee Canal approximately 1.2 miles to the canal headgates opposite East Clifton Avenue in Clifton Passaic, Passaic County, New Jersey

USGS Paterson, Hackensack, and Weehawken Quadrangles
UTM coordinates 18.573550.4525870 to 18.574200.4524200 (see text for other numbers)

Engineer Joseph Allen (Dundee Canal); Ludwig Kick (Botany Worsted Mills)

Builder Joseph Scott (Dundee Canal)

Present Owner Numerous owners of multiple resources (listed below with individual resource entries)

Present Use Dundee Canal (moribund canal); Botany Worsted Mills industrial buildings, Dundee Textile Company Mill, and Andrew McLean Company Textile Mill (mixed industrial); Botany Worsted Mill residential buildings (residential); Acquackanonk Water Company, Botany Mills Lanolin Retrieval, and 95-97 Dayton Avenue sites (vacant)

Significance The Dundee Canal Industrial Historic District (DCIHD) is an approximately 1.2-mile-long swath of late-19th- and early-20th-century industrial and industrial-related resources that cuts through the former manufacturing core of the New Jersey cities of Passaic and Clifton. Arrayed along the spine of the mid-19th-century Dundee Canal, it is composed of seven components, some of which in turn have multiple elements. These seven components are: the Dundee Canal; the Acquackanonk Water Company Site; the Andrew McLean Company Textile Mill; the Botany Worsted Mills Historic District; the (site of) 95-97 Dayton Avenue; the Botany Mills Lanolin Retrieval Site; and the Dundee Textile Company Mill. The New Jersey State Historic Preservation Office determined in 1988 that the DCIHD was eligible for listing in the National Register. The Botany Worsted Mills Historic District was listed in the National Register in 1990. The DCIHD is significant as a surviving, intact, interconnected component of the textile-industry-related landscape that defined Passaic, Clifton, and surrounding communities from the late 19th through the mid-20th centuries.

Project Information The New Jersey Department of Transportation is planning the construction of the Route 21 Freeway Extension through the National Register-eligible DCIHD. To mitigate the adverse effect of this undertaking, NJDOT entered into a Memorandum of Agreement stipulating HAER documentation of the components of the DCIHD, but not recordation of individual buildings. This documentation was prepared to satisfy that stipulation by:

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NARRATIVE TEXT

Background History and Description

The settlement of the Dundee Canal Industrial Historic District (DCIHD), although not any of its standing resources, dates back to the earliest European occupation of the cities of Passaic and Clifton and their vicinity. One of the area's first settlers was Hartman Michielse or Michielsen, who in 1678 purchased Dundee Island in the Passaic River, about one-quarter mile east of the southern section of the DCIHD. With his brothers and others, between 1679 and 1684, Michielse secured the vast Acquackanonk Patent, which encompassed many hundreds of acres in what was to become Passaic, Clifton, and part of Paterson. In 1696 he added the Point Patent to his holdings. The Point and Acquackanonk patents included all of the lands within the DCIHD; the dividing line between the two was present Monroe Street. (Only the Acquackanonk Water Company Site was part of the Point Patent; the remainder of the DCIHD was within the Acquackanonk Patent lands.) Michielse's relations, who adopted the surname "Vreeland," owned much of the land within the DCIHD into the mid-nineteenth century (Scott 1922:32-33; 45, 56; Rutsch 1988:42-50; Batchelder 1854).

The community established at and near Dundee Island, the predecessor of Passaic, acquired the name Acquackanonk Landing or Acquackanonk. Located at the head of navigation of the Passaic River, it became an active market center, shipping area goods by water to New York (Scott 1922:71-72; Rutsch 1988:51). The community's progression from a transshipment point to an industrial powerhouse was largely due to efforts, culminating in the Dundee Canal, to harness the waters of the Passaic River.

Efforts were made to partially dam the Passaic near the present Dundee Dam in the late eighteenth or early nineteenth century, and unsuccessful plans were proposed in 1828 for damming the entire river. In 1832 the Dundee Manufacturing Company (DMC) was incorporated with hopes of developing navigation at the river in the Clifton/Passaic area (Scott 1922:263-265, 269; Raber 1987:5; Rutsch 1988:57-60).

In the early 1830s the DMC dammed the Passaic at the site of the present Dundee Dam and constructed a 12-foot-deep, half-mile-long canal along the site of the present Dundee Canal. Located on the west side of the river, it extended to a point on line with present President Street in Passaic. The canal's success was limited and it operated for only a few years (Scott 1922:265, 269; Raber 1987:6). In 1850 the DMC charter was purchased by the Society for Establishing Useful Manufactures (SUM), which had developed the industrial city of Paterson upriver at the Great Falls of the Passaic in the late eighteenth and early nineteenth centuries. SUM in turn sold the charter to a newly constituted Dundee Manufacturing Company. The head of the new DMC was Edward J.C. Atterbury and the new chief engineer was Joseph Allen, both of whom had been involved in planning and promoting the canal for years. Utilizing plans they had developed decades earlier and the skills of builder Joseph Scott, they constructed the canal between 1858 and 1861. Longer than its predecessor, it extended from the Dundee Dam at the northern edge of the DCIHD to the Passaic River south of the DCIHD (Scott 1922:253, 263, 266-268; Raber 1987:7-10; Rutsch 1988:60-73).

The canal did not become the transportation corridor its builders had envisioned and the DMC went into receivership in 1864. Reorganized in 1872 as, tellingly, the Dundee Water Power and Land Company (DWPLC), the company finally succeeded as a purveyor of water and provider of land. The canal's

dependable supply of water, coupled with rail connections--branches of what was to become the Erie Railroad were constructed along both sides of the canal between 1877 and 1886--led manufacturers such as Botany Mills, the Dundee Textile Company, and the McLean Textile Company to its banks in the late nineteenth and early twentieth centuries (Scott 1922, 136, 258-260, 270; Hyde 1877; Sanborn Map Company 1886; Raber 1987:10-11; Rutsch 1988:74-82).

Passaic's establishment as an independent entity and its industrial growth coincided with the success of the canal. Hopkins' 1861 map of Bergen and Passaic counties locates not a single dwelling within the bounds of the DCIHD, but following the Civil War development was rapid.[1] In 1869 the town of Passaic was separated from Acquackanonk Township and incorporated as a village; in 1873 it was constituted a city. In 1872 the Acquackanonk Water Company was established to provide water to the budding city. Located at the southern tip of the DCIHD, it supplied water from Vreeland's Pond, just north of the company facilities, using power provided by canal waters (Scott 1922:310; Gonski 1972:7; Rutsch 1988:83-84).

Aided by the canal and railroad, Passaic grew rapidly in the late nineteenth and early twentieth centuries. The population of Acquackanonk Township, including Passaic, stood at about 3,200 in 1860 and 4,300 in 1870. In 1880 the population of Passaic alone was about 6,500 and ready to soar. It doubled in each of the following three decades and climbed to almost 64,000 in 1920. Although the city's population may have continued to climb during the early and mid 1920s, it had dropped below 63,000 by 1930 and has remained under that figure ever since (Scott 1922:496; Gonski 1981:12-13). The city's phenomenal growth between 1880 and 1920 is reflected in the DCIHD and surrounding area, which developed rapidly at the close of the nineteenth century and the opening of the twentieth.

Along the canal within the DCIHD in Passaic, two industries were established in 1889. Botany Worsted Mills, the largest of the area's many manufactories, made Passaic one of the country's centers of the worsted industry. The Andrew McLean Company Textile Mill, located opposite Botany on the east side of the canal, produced mosquito nettings and other speciality items, reflecting the varied speciality textile mills that located along and near the canal in the late nineteenth and early twentieth centuries. Both found the canal's waters, and railroad spur lines, indispensable to their operations.

The development of the city of Clifton largely mirrored that of Passaic, particularly within the DCIHD. It was part of the Acquackanonk Patent and, within the DCIHD, vacant of notable dwellings in 1861 (Hyde). Along its extent of the canal, industries--including the turn-of-the-century Dundee Textile Company within the DCIHD, which originally manufactured silks, and the Whippany Paper Board Company--were raised at the opening of the twentieth century. In the early twentieth century the community began to develop separate services and in 1917 it was incorporated as a city (Rutsch 1988:102; Archaeological Survey Consultants 1978:27; John Milner Associates 1987, Vol. II:110; Sullivan 1967).

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[1] The lack of any identified mid-nineteenth-century farmhouses within the DCIHD does not mean its lands were vacant. Following typical Dutch settlement patterns, the Acquackanonk Patent had been divided into narrow but exceedingly long lots extending to the Passaic River. For example, the first 14 lots divided from the patent between 1679 and 1683 each contained a hundred acres within 650' x 6,600' rectangles fronting the river (Wacker 1975:242). In 1861 the DCIHD lands would have been farmed and may well have been occupied by tenants as well.

The three textile mills within the DCIHD--Botany, McLean, and Dundee--are typical in design to those built elsewhere along the canal and in the region. They include expansive, functional, red brick buildings, built between 1890 and 1910, with shallow peaked or flat roofs often serrated with row upon row of saw-toothed windows. Buildings erected at Botany in the teens are typical as well, with fireproof construction including reinforced concrete piers, floors, and ceilings, and expanses of windows.

The DCIHD includes not only the three mills, but eight residences on Mattimore Street that are part of the Botany Worsted Mills Historic District. The eight are two-family brick dwellings of two-story height erected between 1899 and 1894 (Sanborn Map Company). Such houses are much less common in Passaic and Clifton than single-family detached dwellings, but are nonetheless found scattered throughout the area (Roth 1980:32-34; Roth 1981). These dwellings are unusual, however, in their practically identical appearance. They were struck from the same mold by Botany Mills, which built them--and a small number of other houses which no longer survive--to house company workers.

The physical appearance of the DCIHD, and its textile-dominated life, were in place by 1917 and changed little until the area's precipitous decline in the 1950s. Labor strife and economic difficulties within the textile industry marked these years. Passaic, Clifton, and surrounding communities suffered through the great textile strike of September, 1925, to December, 1926, which idled numerous mills, including Botany and Dundee Textile (Murphy 1974:63). The *Christian Century* of August 5, 1926 (cited in Murphy 1974:60-61) evoked Passaic during the strike as follows:

> The railroad cuts the town in two. On the west side is to be found a typical suburban development, in which comfortable homes stand in the midst of generous lawns, shadowed at this time of year by the branches of well-protected trees. Here live men who have their offices in New York, as well as the merchants, business executives and managers, and professional men of Passaic itself. . . . A survey made by the United States Bureau of Education in 1920 showed that 9.9 percent of the population of Passaic at that time lived in nearly half the total area of the city. It is this western half which is devoted to the pleasant homes of the fortunate 9.9 percent.
>
> On the east side of the tracks there is a different tale to tell. Here the same examination by government investigators showed almost half the population crowded into one-sixth of the city's area. It is a typical settlement of foreign-born mill workers. Drab houses are squatted as closely together as they may be placed; lawns and trees are few and far between; backyards are frequently hideous; the whole section is obviously devoted to just one purpose–that of affording shelter to a maximum of human beings at a minimum of cost. In 1920 the government reported that 64.8 percent of the people in Passaic were foreign born, and that 87.8 percent of these foreign born lived in this section of the city–technically the first and fourth wards. It was a social group with sinister possibilities, showing 23.8 percent of the foreign born to be illiterate, and 15.8 percent of the entire population of the city over ten years of age to belong in the same classification. Passaic was then reputed by government investigators to be one of three cities in the United States having the largest percentage of illiteracy. There has not been much change since 1920. On the other hand, many of these houses have passed into the ownership of the workers themselves, showing that there is thrift here, and the desire to "get ahead."

> This east side of Passaic–and in a way the whole city–is dominated by the mills. . . . [T]he great mills which lie along the banks of the Passaic river, and which control the beat of Passaic's commercial pulse, are not silk mills, but woolen. They compete, not with France and Japan, but with New England. And they compete among themselves . . . .

The east side contained Passaic's first and fourth wards, through which the DCIHD runs. These two wards had the densest population of the city early in the century and its highest percentage of foreign-born residents. In 1920 Poles made up approximately a third of the foreign born in the two wards; Hungarians, Russians (likely predominantly Jewish), and Italians, in approximately equal parts, formed another third; and other nationalities comprised the remaining third (Gonski 1972:15-16). Polish is still spoken by many around the DCIHD, as is Spanish, reflecting the great increase in Hispanic occupancy since the 1950s.

Building activity essentially stopped in the DCIHD in 1917, when Botany Mills raised its final buildings. Although textile production continued in the DCIHD and elsewhere locally until after World War II, demand never exceeded the World War I-era capacity of the established mills. The textile strike was indicative of the stagnant nature of the industry in the 1920s and 1930s. Botany's fortunes recovered in the 1940s, but by 1955 the mill had been closed and converted to a mixed-use industrial park. The McLean factory now also has mixed occupancy and the Dundee Textile Company buildings are used for the production of fiberglass pellets rather than silk.

The mills and archaeological components of the DCIHD remain in the same proximity to each other as they did in the 1920s, connected by the spine of the Dundee Canal or, in the case of the Acquackanonk Water Company site, its filled prism. Botany and McLean continue to face each other across the canal, as does the site of the Botany Lanolin Retrieval plant. The other resources, however, are only united by the canal. A journey south on the canal's waters from just below its headgates, through its often trash-choked and polluted waters, to Dayton Avenue and a view across its filled prism of the Acquackanonk Water Company site, makes the relationship of the resources to the canal apparent, as does a pass over the DCIHD in a helicopter. From the ground, however, the relationship is not apparent, as the separate elements are just part of a much larger industrial landscape. Only when standing on the canal bank at Botany and looking across the prism to McLean, or vice versa, is the relationship of some of the non-canal resources to each other clear from the ground. The photographs that accompany this documentation, therefore, record not only the limited relationship of the mill complexes and archaeological sites to each other, but also the more profound connection of the individual industrial and archaeological components to the canal and the canal's relationship to them.

As the DCIHD is long and narrow, with bulges at the three textile mill complexes, it has been mapped with multiple UTM points. These points note the beginning (north) and end (south) points of the district and the boundary points for the mill complexes. As noted on an enlarged composite USGS topographical map included with this documentation, these points are the following:

Point	Zone	Easting	Northing	USGS Quad Sheet
A	18	573550	4525870	Paterson, N.J.
B	18	573840	4525580	Hackensack, N.J.
C	18	573880	4525700	Hackensack, N.J.
D	18	574060	4525560	Hackensack, N.J.
E	18	573940	4525500	Hackensack, N.J.
F	18	574220	4525160	Hackensack, N.J.
G	18	574000	4524920	Weehawken, N.J.–N.Y.
H	18	574500	4524920	Weehawken, N.J.–N.Y.
I	18	574220	4524580	Weehawken, N.J.–N.Y.
J	18	574380	4524620	Weehawken, N.J.–N.Y.
K	18	574580	4524520	Weehawken, N.J.–N.Y.
L	18	574200	4524200	Weehawken, N.J.–N.Y.

Individual Resource Histories and Descriptions

Dundee Canal[2]

History and Significance

The 1985-1986 Historic American Engineering Record (HAER) documentation of the Dundee Canal Headgates, Guardlock, and Uppermost Section (HAER No. NJ-45) summarizes the history and significance of the canal as follows:

> The Dundee Manufacturing Company built the present Dundee Dam and the 1.8 mile Dundee Canal between 1858 and 1861, culminating at least three decades of attempts made to harness Passaic River water power at the dam site, and over six decades of planning for navigation between the Great Falls at Paterson and tidewater at Passaic. Paterson's older but analogous Society for Establishing Useful Manufactures was an apparent parent of the Dundee venture and corporation. The dam and intake structures at the canal's upper end were the most substantial and important features of the short system. Although designed for an unusual combination of navigation and power, the canal and its builders proved incapable of sustaining the former of its two principal chartered roles, and after two corporate reorganizations, the company emerged in 1872 as the Dundee Water Power and Land Company. As a seller of water rights for power and processing, the new company and its facilities were pivotal in the transformation of the small tidewater junction

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[2] The following history and description of the Dundee Canal is largely based upon the HAER documentation of the Dundee Canal Headgates, Guardlock, and Uppermost Section (HAER No. NJ-45) prepared by Michael S. Raber and others between 1985 and 1986. Because of the level of detail of that documentation and the preparation--concurrently with this document--of an Addendum to it, this history and description is brief, concentrating on the appearance of the surviving open-water section of the canal that is to be affected by the Route 21 Extension project.

> of Acquackanonk into industrial Passaic, a national center of integrated woolen production whose growth yielded the company more income from real estate sales until the late 19th century. Despite the exhaustion of available land rights, increasing use of steam or electric power by canal-side industries, and decreasing availability of clean canal water for woolens processing in the 20th century, the company'[s] lake, dam, and canal continued to provide a stable corporate income in water rights leasing for fire prevention and non-woolen industrial production. Rubber products manufacture emerged as a major local industrial component by the early 20th century with less stringent water quality requirements than woolens, and survived the contraction and disappearance of woolens production between c.1929-59. Canal appearance and ownership began a series of changes in the 1930s, as the city of Passaic flumed over much of what had become an aqueous corridor of trash. The canal's owners sold out to a group of local lawyers shortly after World War II, in a move linked to the demise of the Society for Establishing Useful Manufactures. A sequence of related public water supply corporations gained control after 1974, resulting in the demolition and stabilization of deteriorated elements at the canal's upper end. Until 1985, however, the guardlock and headgate structures built in tandem at the dam's west end retained much of their original configuration and features, and had additional significance as the most dramatic visual vestige of the dual navigation-power functions projected by the canal's first proponents (Raber 1986:1-2).

Following a number of only partially successful attempts to build a canal in Passaic and utilize the Passaic River for navigation and water power, the Dundee Manufacturing Company or DMC commenced construction of a dam across the Passaic and the Dundee Canal in 1859. Chief engineer and company director Joseph Allen, and builder Joseph Scott, raised the height of a c.1833 dam across the river by about eight feet to about 18 feet. Following the completion of the dam and intake structures in 1859-1860, they built the canal in 1860-1861 (Raber 1986:6-9). According to Raber (1986:8-9):

> The canal system as built was simple, with a main canal or headrace about 1.8 miles long, delivering about two feet of head, and a 1500-foot [l]ong lower canal or tailrace over 24 feet below at approximate tidewater elevation, in the channelized lower end of Weasel Brook to the west . . . . All potential mill sites encompassed the ell-shaped lower headrace below the junction with the lower canal, since this was the only section where fall to tidewater in Weasel Brook or the Passaic River could provide effective mill rights. Weasel Brook, more or less paralleling the canal in present Clifton and Passaic, was an important local source of pure water for cotton bleaching, with existing mill privileges. Allen's plan did nothing to interfere with these privileges . . . .
>
> . . . [The canals were built] reusing and probably widening the earlier canal prism, extending the earlier canal in shallower form to complete the upper canal, and excavating in lower Weasel Brook for the lower canal.

The canal system, in terms of navigation, was a failure. The lower locks were never completed and a lower gate was not added to the guardlock at the dam. One boat, at most, ever navigated the canal, and that was almost certainly over only part of its length. The canal likely opened in July, 1861, but heavy rail competition and a disincentive to construct cotton mills brought about by the Civil War led the DMC to enter into receivership in 1864 (Raber 1986:9-10).

The DMC reorganized as the Dundee Water Power and Land Company, and in the last third of the nineteenth century became successful as a provider of water for industrial processing and fire protection. It became a successful, if static, enterprise based upon renting water rights into the mid-twentieth century. With its limited, if stable, income, the company changed the canal little, other than making repairs at its upper end following floods in 1902 and 1903. The canal became dirtier and more hazardous, but the land it occupied nonetheless became more desirable. The city of Passaic leased the canal surface south of Monroe Street in 1935. From 1935 to 1941, with Works Progress Administration assistance, the city installed a double concrete flume or culvert over about 2,200 feet between Monroe and Passaic streets, and paved this portion over for parking and other public use (Passaic City Engineer's Office photographs; Passaic *Herald-News* 1947 and 1949; Raber 1986:10-13).

The canal changed hands a number of times after World War II. In the 1980s the American Hydro Power Company leased the upper end of the canal system for a hydroelectric facility. In late 1985-early 1986, they removed the remains of the east canal bank below the guardlock and the intake gates, modified the west canal bank, removed half of the west guard lock wall to install a fish diversion louver and trash rack, and filled in a small part of the upper canal basin. The HAER field documentation of the canal's upper section was conducted at this time, when many upper features were exposed (Raber 1986:2-3). The company then installed 11 water conduits and a small power plant (Bergen *Record* 1986; *North Jersey Herald-News* 1987). The project was not successful and the turbines that sat over the water conduits and the tiny power plant located just to their south were soon removed (Kreczkowski 1997).

According to tax maps and information provided by the tax assessor's office of the cities of Clifton and Passaic, the open-water sections of the Dundee Canal and/or long-term leases for surface rights over the canal--within the bounds of the DCIHD--are owned by the New Jersey Department of Transportation, the Recycled Paperboard Company of Clifton, and the Dundee Water Power and Land Company. The tax maps and tax assessor's offices indicate that open-water sections of the canal within the DCIHD comprise Clifton Block 3.17/Lot 1; Clifton Block 4.14/Lot 1; and Passaic Block 1054A. The section south from the end of the open waters to Monroe Street, which is channelized and paved, is owned and/or leased by the city of Passaic and does not have a block and lot number.

Description

Raber (1986:13-14) summarized the appearance of the entire length of the canal, including its southern section which is not included within this documentation, as follows:

> Beginning at its dam and intake structures, the Dundee Canal remains an open waterway for about 6,100 feet through Clifton and to a point about 300 feet north of Monroe Street in Passaic. The next 2,200 feet of the main or upper canal to Passaic Street comprise the section placed in concrete culverts by the city of Passaic in the 1930s and subsequently covered by asphalt or concrete. About 500 feet of open waterway then reappear, extending to the sharp angle at the bottom of the main canal, where the last 1,200 feet running to the east disappear again under concrete. The lower canal or tailrace is covered by, and evidently encased in, concrete from an undocumented construction episode. Along its upper open section, the canal water surface is 75 to 100 feet wide between relatively intact banks. Most of this section north of Ackerman Street in Clifton is wooded. Further south along the open section, industrial and commercial development

characterizes virtually the entire west side, with the east side marked by similar but less continuous development and by landfill abutting the Passaic River. The shorter open section north of Passaic Street has a far more deteriorated profile, with demolition and other debris nearly filling the canal. Refuse of varied type and size appears along the upper open section as well.

Construction of the canal prism south from its headgates to around Virginia Street near the southern edge of the McLean Textile complex involved building artificial towpath banks on the east side of the canal. The material utilized was excavated from natural glacial terraces located west of the Passaic River. Along this stretch, the natural terrain was probably modified to create one of the banks. From about Virginia Street south to the river, which was more level, more expensive construction of two banks and/or excavation of the entire prism was necessary. At the upper half mile of the canal, portions of an earlier c.1833 canal were apparently incorporated, with changes, into the canal prism (Raber 1986:16-17).

A modem bridge at Ackerman Avenue just south of the Dundee Textile Company mill is the only crossing of the open-water section of the canal within the DCIHD. A pedestrian footbridge that crossed the canal between Mattimore and Third streets, roughly between Botany Mills and the Andrew McLean Company textile complex, was removed in the late 1980s. It was the last of the significant surviving footbridges across the canal. The skeleton of a narrow service footbridge, discussed further below at the Botany Mills entry, partially crosses the canal behind Botany Mills. A narrow railroad bridge (also discussed further below) that crossed between Botany Mills on the west bank of the canal and Botany's Lanolin Retrieval plant on the east bank has also been partially dismantled; its plate girders still extend part way into the canal from the east. Three metal pipes of undetermined age are suspended over the canal south of the rail bridge opposite Botany Mills. A fourth pipe is suspended over the canal just north of the rail bridge, also opposite Botany. A fifth and final pipe is carried across the canal opposite the former site of the Forstmann and Huffman textile mill, north of Botany Mills and south of the Ackerman Avenue crossing. The modern hydroelectric facility at the canal's headgates has been partially dismantled. Its most notable surviving features are the filled uppermost section of the canal and 11 water conduits.

Acquackanonk Water Company Site[3]

The Acquackanonk Water Company site is on the south side of Monroe Street between George Street and the filled prism of the Dundee Canal. To its west was once located Wesel or Weasel Brook, which now courses through an underground conduit. Across Monroe Street is the site of Vreeland Pond, now occupied near Monroe Street by the buildings and parking lots of Beth Israel Hospital. The Acquackanonk Water Company was incorporated in 1867 and authorized to conduct the necessary work to provide Passaic with water. It chose Vreeland's Pond and Weasel Brook as its water source and began to construct its water works at the present site in 1871 (Rutsch 1988:123-124).

The company erected a brick 30' x 60' pump house with a stone foundation, which housed a two-section wheel pit, water tanks, and a force pump. The 16' x 20' wheel pit was 20 feet deep and had three-foot-thick

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[3] The following history and description of the Acquackanonk Water Company site is largely based upon the primary source research and National Register-eligibility assessment of the site prepared by Rutsch in 1988 and by a study of the Sanborn maps of 1899, 1903, 1910, and 1935.

walls grouted by cement and sand. One of the turbines was powered by water drawn from Vreeland's Pond by a pipe. The water for the other came via an open channel from the Dundee Canal. The pump forced water through a pipe to high ground on the west, from which the water was delivered to customers via company mains. Water was exhausted from the turbines into Weasel Brook (Rutsch 1988:124-125). An early Passaic history (Pape and Scott 1899:75-76) gives an account of the company's history and the excitement when it turned the water on:

> . . . Mains were rapidly laid, and on August 2, 1872, water was first supplied to the village from the Dundee Canal, which then furnished clean water. It was pumped into the storage reservoir in Mr. Paulison's ground, where he was building the magnificent mansion that is now our City Hall. The cost of the entire plant was over $100,000. The turning on of water was the occasion of a great celebration, in which all the citizens turned out to watch a civic and firemann [sic] parade. The company is still known as the Acquackanonk Water Company, though it was afterward absorbed by the Passaic Water Company of Paterson, and both were swallowed up by the East Jersey Water Company.

By 1899 the water works had ceased operations. According to the Sanborn map, however, there was a caretaker on the premises and the "pump [was] kept in readiness to be started on short notice" (Sanborn Map Company 1899). Additions were made to the building and storage houses were erected at the east end of the property, adjacent to the Erie line and the Dundee Canal, between 1901 and 1935, although the pump was apparently never operated again (Robinson 1901; Sanborn Map Company 1903, 1910, and 1935). By 1935, when the site was the property of the Passaic Valley Water Commission, the principal building was utilized as a garage and dwelling and for storage. The pump house was demolished in 1962 as part of the construction efforts for Route 21, even though the highway stops short of the site (Rutsch 1988:127). In 1971 a one-story cinder-block building was erected on the east end of the site, where the storage buildings had once stood (Sanborn 1987b).

Rutsch (1988:127) identified the Acquackanonk Water Company site as potentially archaeologically significant and recommended archaeological testing that might identify *in situ* features of the water works, including the intake system, the water treatment facilities, the pump setting, and the power flume and water engine setting. The New Jersey Department of Transportation has determined, however, since the completion of the Rutsch report, that the Route 21 extension will not have an impact upon the site. Therefore, no below-ground archaeological investigations have been conducted there and its surviving features, whatever they may be, still remain beneath the surface of the ground.

The Acquackanonk Water Company Site is owned by Mary Louise Reh. It occupies Block 4073, Lot 1 in the city of Passaic.

Andrew McLean Company Textile Mill

History and Significance

On May 1st, 1889, Andrew McLean purchased from the Equitable Land Company land located between the Dundee Canal and the Passaic River, upon which he quickly raised his company's new textile mill (Passaic County Deed Book S-9, Page 164). The property had been part of John J.E. Vreeland's extensive

holdings, which were disposed of by his heirs in the mid 1880s (see e.g. Passaic County Deed Book I-7, Page 257, 1883; Anonymous 1884).

McLean was a scion of a Scottish-American textile manufacturing family. His grandfather had emigrated to America from Scotland in 1826 and within a few years had established what may have been the country's first manufactory of mosquito nettings, crinoline linings, and buckrams, which were to remain a staple of the family business. In 1854 Andrew McLean's father, also named Andrew McLean, took over the business, which had factories in Paterson and New York City. He moved the Paterson operation to Troy, New York, in 1858, where it operated until destroyed by fire in 1860. With his brother, George, the elder Andrew McLean formed the A. & G. McLean company and opened a new spinning and weaving operation, again in Paterson, in 1866. The plant burned in 1871, but reopened at new facilities. The elder Andrew McLean bought out his brother's interest in 1872 and expanded operations. At his death in 1888 he operated factories in Paterson and New York City and maintained his office and showrooms in lower Manhattan (Pape and Scott 1889:291).

Andrew McLean the younger succeeded his father and in 1888 formed a partnership with his brother, George, under the name Andrew McLean & Company. The company began to consolidate its operations and increase its facilities. By January, 1890, they had opened their new factory in Passaic. Pape and Scott (1899:291, 296) note that "with more than double the floor space and machinery, the production was not equal to the demand" and by 1892 they had constructed a fourth building "fully equipped with the latest and most improved machinery."

The company's first mill buildings were erected in 1889, contemporaneously with the buildings of the much larger Botany Mills textile complex erected immediately across the Dundee Canal to the northwest. Other building followed, until the manufactory largely reached its present configuration in 1913 (Pape and Scott 1899, 296; John Milner Associates 1987, Vol. II:110). The company's location was chosen because of access to the canal's waters and a nearby rail line. The northwest comers of Buildings No. 1, 2, and 3 were clipped to facilitate the passage of the Passaic and New York or New York, Susquehanna and Westem Railroad (later part of the Erie system) and a spur line that entered the factory. The rail and spur lines have been torn up and their presence is apparent largely only through the clipped building edges.

Continuing the family business, the cotton goods first manufactured at the McLean mill included mosquito netting, crinolines, and buckrams, as well as dress linings, canvases, shade cloths, and absorbent gauze for hospitals. In 1944 the mill continued to produce mosquito netting and buckram for shoes, but its principal product since that time has been Betmar hats for ladies. Betmar continues to utilize the factory buildings, as do a few other concerns, but the Andrew McLean Company is no longer in business. Like many other industrial sites in Passaic and surrounding communities, the complex now functions as an industrial park (Sanbom Map Company 1903, 1910, 1918, and 1935; Pape and Scott 1899, 296; John Milner Associates 1987, Vol. II:110).

The Andrew McLean Company Textile Mill was one of the manufactories that transformed the city of Passaic in the late nineteenth and early twentieth centuries into one of America's leading producers of specialized textile goods, such as mosquito netting. Its buildings retain their integrity and embody the distinctive characteristics of Passaic's industrial architecture at the tum of the century (John Milner Associates 1987, Vol. II:110-111).

The Andrew McLean Company Textile Mill is owned by Chelten Realty, Inc. It occupies Block 1007, Lot 1 in the city of Passaic.

Description

In their assessment of the National Register eligibility of the Andrew McLean Company Textile Mill, John Milner Associates, Inc. (1987, Vol. II:107-108) succinctly summarized the appearance of the complex:

> The Andrew McLean Complex is a group of one, two, and three-story brick factory buildings, constructed between 1889 and 1913 for the manufacture of specialized textile products. With the exception of Building 6, built in 1912-1913, the Andrew McLean buildings are typical of turn-of-the-century vernacular industrial construction in Passaic. Very shallow-pitched gable or shed roofs predominate. Walls are built of red brick laid in common bond. Segmentally-arched window openings feature brick lintels consisting of three courses of headers set on edge, and sills of rockface bluestone. Small-pane windows are arranged in either wooden double-hung sash, some with bin window transoms, or in fixed transoms above metal sash bin windows, in 8/16, 9/9, or 12/12-light combinations. Segmentally-arched doorway openings are finished, like the window openings with three-course header lintels. Several original exterior wooden doors remain in place, containing two or three recessed wood panels below panels of glass. A transom with glass panes fills the arched opening above the doors.

The six buildings of the complex are grouped in a rough triangle that is bounded on the southwest by Virginia, Third, and Fourth streets; on the south by a property line extending from Fourth Street to the Passaic River; on the east by the river; on the northwest by a diagonal, reflected in the diagonals of building facades, oriented towards former railroad lines and the Dundee Canal; and on the north by land that once held the Botany Mills Lanolin Retrieval Plant. Some of the buildings, particularly Building No. 1, grew early in their histories through additions and were eventually largely interconnected through second-story walkways. In order to identify them graphically and in the following individual descriptions, the buildings have been assigned numbers 1 through 6, which corresponds in part to numbers they presently carry.

Building No. 1 (c.1889-1899, c.1918-1935) - This building, the mill's first, is formed of blocks primarily erected between 1889 and 1899. An 1899 photograph of the mill complex (Pape and Scott 1899:287) indicates the building was erected as a number of partially attached blocks which were subsequently joined. At the northeast corner is a rectangular two-story block with its nearly flat ridge line running east-west. To its west is a square two-story block with its almost flat ridge line running north-south. These two blocks were originally separated by a three-story tower and a tall rectilinear smokestack. The stack is the only part of Building No. 1 pictured in the 1899 photograph that is no longer standing. Since no later than 1918 (Sanborn Map Company), the two blocks have been joined at the second story. An open passage continues to run between them at the first floor. The third story of the tower, which rises between the blocks, is marked by a steeply pitched roof edged by gabled dormers that shelter bull's-eye windows. Since 1987 (John Milner Associates 1987, Vol. II:Plate 33) the tower's slate roof has been supplanted by asphalt shingles and the iron cresting at its peak has been removed. Running to the south of the two blocks, across their full extent, is a long two-story block with its almost flat ridge line running east-west. In 1899 it was fully attached to the tower and the western block, but not to the eastern block. It was subsequently attached to that block, at the second story, probably in the early twentieth century.

Building No. 1 also included a dye-house complex at its west end originally formed of four adjoining flat-roofed rectangular buildings, the three northernmost sunk into the ground and lit by monitor roofs, the southernmost one-story tall over a basement. A one-story extension was added to the west of the dye complex prior to 1899, possibly in 1895 (John Milner Associates 1987, Vol. II:108). Between 1918 and 1935 (Sanborn Map Company) the extension and southernmost dye house were raised to two stories, creating a monolithic, two-story, south-facing wall. The extension's northwest corner is clipped to facilitate the rail line that once ran past its edge into the mill complex.

Building No.2 (c.1903) - This three-story building was erected prior to 1910, possibly c.1903 (John Milner Associates 1987, Vol. II:108), on the site of two one-story buildings pictured on the 1899 photograph of the complex (Pape and Scott 1899:287). A long rectangular structure perpendicular to Building No. 1, it is topped by an overhanging, shallow-pitched, gabled roof. Affixed to its west is a four-story stair and elevator tower adorned with corbeled brickwork and bull's-eye windows beneath its flat roof. A small one-story addition with a shallow gable roof is affixed to the building's west side. A small, one-story, flat-roofed addition is affixed at its north. This addition is clipped at its northwest corner, accommodating a rail line that once passed by it.

Building No. 3 (c.1889-1899, 1912) - The boiler room, parallel to and north of Building No. 1, was erected prior to 1899, perhaps at the time of the mill's establishment. A rectangular one-story structure, it is topped by a nearly flat roof. Its east elevation is marked by a large three-part window--probably originally a doorway judging from the brick infill beneath--that is set in a segmental arch accented with fish-scale shingles. The northwest corner of the block is clipped, reflecting the angle of a rail line. Attached to the north side of the boiler room is a smaller and shorter one-story block erected in 1912 (date stone) as a power or engine house. It is topped by a low pitched roof with clerestory windows at its long north south elevation and two large metal water tanks. At the northeast corner where the two blocks join is a tall brick smokestack probably erected contemporaneously with the boiler room; it is visible in the 1899 photograph.

Building No. 4 (1908) - This two-story rectangular building is topped by a slightly peaked gable-end roof. It was erected in 1908 (date stone) parallel to and between Building No. 1 to its west and the Passaic River at its east. Second-story walkways, added between 1918 and 1935 (Sanborn Map Company) connect it with Building No. 1 and Building No. 5 to its north.

Building No. 5 (c.1912-1913) - This manufacturing building was erected c.1912-1913 parallel to and just east of Building No. 2 (John Milner Associates 1987, Vol. II:109). Its long west elevation looks out over the Passaic River. Its southernmost portion is two stories tall; its remainder rises one story. A rectangular structure topped by a flat roof, it is joined at its second story via walkways to Building No. 2 and to Building No. 4 to its south. These walkways were added between 1918 and 1935 (Sanborn Map Company).

Building No. 6 (1912) - This two-and-a-half-story rectangular office building was constructed in 1912 (date stone) south of and perpendicular to Building No. 1, to which it is attached by an original second-story walkway. The only building in the mill complex with any style beyond that of the standard industrial esthetic, it is idiosyncratically finished with elements of the Spanish and Colonial Revival styles. The Spanish is apparent at its tiled low-hipped roof, pierced by a consoled dormer at its west front and

hipped dormers at the sides. The Colonial is expressed through heavy brick quoining and by limestone detailing, which includes keystones and label stops, a beltcourse, an entry framed by Doric columns and a segmental-arched pediment, and the corbeled window above the entry. Milner (1987, Vol. II:109-110) notes that the unusual proportions of the office's decorative elements display a "spirit of experimentation and lack of stylistic purity [that] are reflections of the period in which the building was designed." An open space extending from the front (west) of Building No. 7 up to Third Street was once landscaped with trees and flowers and enclosed by an iron fence as a park for employees. In 1950 it was paved and converted into an employee parking lot (John Milner Associates 1987, Vol. II:110). Where this lot meets Third Street, at the southwest corner of Building No. 1, is a pair of brick gate posts. Similar gate posts are located at the southeast corner of this building, opening on to Virginia Street. These posts are contemporaneous with the office building.

Botany Worsted Mills Historic District[4]

History and Significance

The National Register nomination for the Botany Worsted Mills Historic District (Dolkart and Geismar 1990:8 - 2) summarizes the resource's significance as follows:

> The Botany Worsted Mills Historic District is significant under [National Register] Criterion A in the category of industry, and under Criterion C in the category of architecture. This industrial complex, including fifty-three factory buildings and sixteen workers' houses all of which were built between 1889 and 1917, is one of the largest and most important industrial complexes in New Jersey. The factory is said to have been America's largest manufacturer of worsted cloth and finished goods. It was the largest factory complex in the industrial city of Passaic, New Jersey, and its growth spurred the development of Passaic during this period which is locally remembered as the city's "golden age." In addition, the Botany Mills was the largest industrial establishment involved in the Passaic Textile Strike of 1926, one of the most significant labor actions in the history of the American textile industry. The buildings of the Botany Mills are representative examples of late nineteenth and early twentieth century industrial architecture, all the more important because the complex remains so completely intact.

Botany Worsted Mills was incorporated in May, 1889, largely through the efforts of Kammgarnspinnerei Stoehr and Company of Leipzig, Germany, one of Europe's largest woolen and worsted firms. The company, which was founded by Eduard Stoehr, was prompted to establish an American manufacturing facility by calls for protection of the American woolen and worsted trade that culminated in the McKinley Tariff Act of 1890. The tariff made the importation of worsted yarn prohibitively expensive and led many German, French, and other European manufacturers to open worsted factories in America (Mooman 1949:16-17; Dolkart and Geismar 1990:8 - 4-6).

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[4] The following history and description of the Botany Worsted Mills Historic District is largely based upon the National Register nomination prepared for the district by Andrew S. Dolkart and Joan Geismar in 1990 and by a study of Sanborn maps of 1894, 1899, 1910, 1918, and 1935.

The Passaic site was chosen by Stoehr's brother-in-law, Oscar Dressler, and construction engineer Ludwig Kick. Kick, who had a reputation in Europe as a builder of textile mills, was responsible for the design and construction of the plant (Mooman 1949:17-18). The Passaic property, located on the west bank of the Dundee Canal, was primarily acquired in May, 1889, from the Equitable Land Company (Passaic County Deed Book M-9, Page 380). The tract in turn had been part of John J.E. Vreeland's extensive holdings, which were disposed of by his heirs in the mid 1880s (see e.g. Passaic County Deed Book I-7, Page 257, 1883; Anonymous 1884). The Stoehr concern began constructing the immense complex in July, 1889, and by August, 1890, woolen yarns were coming off of the spindles. Within another year, Stoehr had added weaving, dyeing, and finishing facilities to the manufactory (Mooman 1949:18).

Even though they were made of wool, worsted goods differed from woolen goods and, until the enactment of the protective tariff, were not even viewed as woolens. Worsteds, unlike woolens, were manufactured from wool threads that were combed before spinning, producing a lighter finer textile. The manufacture of worsted consisted of nine basic steps--scouring, carding, gilling, combing, drawing, spinning, weaving, dyeing, and finishing. Botany was perhaps the first North American mill to combine all of these operations at one site (Dolkart and Geismar 1990:8 - 4-5; Murphy 1974:73-74; Mooman 1949:16-17).

The worsted industry had begun to establish a foothold in America in 1869 with the introduction of new machinery and by 1890, aided by the tariff, the amount of worsted manufactured in the United States had grown to equal the production of coarser woolens. By 1900 the worsted industry was the larger of the two (Dolkart and Geismar 1990:8 - 5-6).

Botany Worsted Mills was one of the most important foreign worsted mills established in the United States. Ambitious from the start, the company acquired most of the land within the historic district--and land to the west of Dayton Avenue and a tract across the canal as well--in 1889. About 1898 they acquired additional property at the district's northern end. The lands were adjacent to the Dundee Canal, which provided water for the complex's cooling, fire fighting, and coal-fired, steam-driven, power plants (Dolkart and Geismar 1990:8 - 6). Adjacent lines of the Erie Railroad further facilitated the company's manufacturing efforts, which required receiving large amounts of raw wool and the means to ship this wool as finished worsted yarn and cloth.

Construction of the mill buildings, which were initially designed to produce worsted yarn, began almost immediately after the land was purchased. The earliest buildings included the original office (building number 1 [No. 1], see descriptions of numbered buildings, below), three spinning buildings (No. 3, No. 5, and No. 6), a preparing building (No. 8), and a combing building (No. 11), all of which were connected as a single complex at the southern end of the grounds. Just to the north of them a machine repair and blacksmith shop (No. 7), a combing wash house (No. 10), a storage building and carpenter's shop (No. 16), a boiler house (No. 17), and a wool storage house (No. 18) were also early erected (Dolkart and Geismar 1990:8 - 6-7; Sanborn Map Company 1894).

The first buildings also included 14 pairs of detached houses holding 28 housing units. These stood on the north side of Mattimore Street at the very southern end of the mill complex behind the original large mill complex, and on the west side of Dayton Avenue. None of the houses on the west side of Dayton Avenue survive. Eight duplexes on Mattimore Street, seven with Mattimore Street addresses (No. 54 through No. 67) and one with a Dayton Avenue address (No.s 68 and 69), still stand and are included within the Botany

Worsted Mills Historic District. The houses were rented to factory employees and their families and also housed boarders who worked at the mill. The large majority of adult residents at the tum of the century were native Germans who were skilled workers--such as bosses, spinners, and machinists--or simply mill hands. Some of the adults had been bom in Russia; a few others were spinners from France (Dolkart and Geismar 1990:8 - 8).

The plant was expanded over 12 acres beginning in the fall of 1891 and began, as originally planned, to produce finished textiles. The new buildings included two connected weaving buildings (No. 22 and No. 32) near the center of the compound and a wash house (No. 36), a drying room (No. 37), and a pressing building, later a dye house (predecessor of No. 38) in a connected complex just to their east, adjacent to the canal (Dolkart and Geismar 1990:8 - 7; Mooman 1949:18).

By the early 1890s the complex contained 340 looms and employed 1,600 people. According to company claims in an annual report in 1949, it had become the largest single completely integrated woolen and worsted mill in the country. The company continued to expand within the compound, adding onto the existing building complexes and erecting a new complex for spinning and weaving at the west (including No. 19, No. 21, and No. 30), a new complex at the northem edge of the complex for dyeing (No. 42, No. 43, and No. 44), a new office facing Dayton Avenue (No. 1), and new engine and turbine houses (No. 46, No. 47, No. 48, No. 49, and No. 50) at the northwest comer of the complex near President Street and Dayton Avenue (Dolkart and Geismar 1990:8 - 7). During the first decade of the twentieth century the company also added storage facilities and retention basins to the west of the current complex, across Dayton Avenue. Virtually all of these storage facilities, along with the Dayton Avenue residences, have been demolished and this former part of the complex is not included within the historic district.

Botany Mills and, to a lesser extent, other worsted and textile mills, led to a surge of growth in the late nineteenth and earlier twentieth centuries in Passaic, neighboring Clifton and Garfield, and other adjacent cities. In 1910 Passaic's population exceeded 54,000 and Botany's employees reportedly numbered about 12,000. Botany had also drawn other worsted mills to the area that further promoted job and population growth. These included the no-longer-extant Forstmann and Huffman Mill, which stood just to the north, the Passaic Worsted Spinning Company, the Gera Mill, the New Jersey Worsted Spinning Company, and the Garfield Worsted Mill (Dolkart and Geismar 1990:8 - 8-9). (The Forstmann and Huffman Mill site is now occupied by an empty lot immediately north of Botany and, just below the Ackerman Street bridge, by a supermarket and strip mall complex.)

In 1918 Botany Mills and five other German-owned worsted mills in Passaic and Garfield were confiscated by the federal government and put in the hands of the Alien Property Custodian. In 1918 the Custodian summarized Botany's manufacturing history. He reported that the mill had grown from 13,000 spindles and 100 looms at its founding to 82,000 spindles and 2,200 looms. In a normal week the mill could spin 125,000 to 130,000 pounds of yam and weave 225,000 to 230,000 yards of dress goods, broad cloths, and heavy fabrics. Two-thirds of the yam production was used to weave women's dress goods and men's wear cloth on the premises, the remainder was sold to other manufacturing firms in New England, Pennsylvania, and elsewhere. The small quantities of woolen, rather than worsted, yams produced at the mill were also woven into cloth products on the premises. The Custodian also noted that while the mill had originally produced women's fabrics of the lowest grade, it was producing fabrics of the finest grades demanded

domestically by the early twentieth century. The mill remained productive during this period, turning out woolen goods for American servicemen during World War I (Dolkart and Geismar 1990:8 - 7).

Botany's confiscation was challenged by Max Stoehr, the company's president and son of its founder. Stoehr had been naturalized as an American citizen in 1911, but the U.S. Supreme Court in 1921 refused to issue an injunction against the seizure. At the behest of President Harding, however, the factory was not auctioned by the Custodian. It was rather acquired by interests represented by Colonel Charles F.H. Johnson, who had begun working there in 1920 when it was controlled by the government. Although Botany was seized, it remained under the effective control of its German interests. In 1926 the Botany Worsted and Garfield Textile Mills, the latter located across the Passaic River, were owned or controlled by a holding company, Botany Consolidated Mills, Inc., whose president was Max Stoehr. Stoehr also served as treasurer of the Botany mill. Colonel Johnson served as the mill's first vice president and a director of the holding company. As Stoehr and mill president Ferdinand Kuhn spent most of their time in Europe, Johnson effectively ran the mill, of which he became president in 1929 (Murphy 1974:63-64; Dolkart and Geismar 1990:8 - 9; *New York Times* 1952; *New York Times* 1953).

In the 1920s Botany and other Passaic-area mills suffered through competition with New England mills, new synthetic fibers, and other economic challenges. In the face of the decline, the mills cut wages by ten percent in 1925, prompting the great Passaic textile strike, which lasted from September, 1925, to December, 1926 (Dolkart and Geismar 1990:8 - 9-10). Botany was among the mills struck.

A contemporary account of the strike (cited in Murphy 1974:63) noted that Botany's capacity in 1926 was about the same as it was in 1918: "The Botany Worsted plant now covers more than 100 acres. It is housed in 108 buildings, with a capacity of 125,000 pounds of yam and 225,000 yards of fabric. It employs 6,400 workers, of whom about 500 make up the office force."

Botany continued to operate following the strike, but did not physically grow. With the exception of a few tiny additions, such as a gate house (No. 53) erected in the 1930s or early 1940s, the mill added no new buildings after its 1918 seizure. In November, 1941, the company sold off the houses it had built on Mattimore Street when the enterprise was first established (Dolkart and Geismar 1990:8 - 10; e.g. Passaic County Deed Book N-42, Page 559, 1941).

The mill staved off bankruptcy during the Depression and govemment orders during World War II brought it back into full production. The 1940s were profitable years. The company began to label its products for direct distribution to retailers, creating the "Botany 500" nameplate for a line of men's clothing. Starting with ties in the 1930s, the product line was expanded following the war to include men's robes, scarves, sport shirts, bathing suits, socks, and gloves, and women's knitting yarns, robes, cosmetics (see discussion of Lanolin Retrieval Site, below), and fabrics for home sewing (Mooman 1949:137-138; Dolkart and Geismar 1990:8 - 10).

In 1947 the firm changed its name to Botany Mills, Inc. The drop of the word "worsted" from its title reflected the decline in importance of the product in the company's textile line. Sales declined in the early 1950s and the death of Col. Johnson in 1952 rang the death knell for the company in Passaic. In 1955 the Passaic mill closed its doors and was converted into a multi-tenant industrial park. It continues to serve that function to the present, now under the control of Helmsley-Spear, Inc. of New York. The mill's parent

company, Botany Industries of Philadelphia, continued to produce Botany cloth until 1973, when it too went out of business (Dolkart and Geismar 1990:8 - 10).

The industrial buildings within the Botany Worsted Mills Historic District are owned by Helmsley-Spear, Inc. The residential buildings are owned as follows: 6 Mattimore Street (Stanislau and Ewa Klocek); 8 Mattimore Street (Kenneth A. Gearo); 10 Mattimore Street (Margaret Ozsgyani Tekas); 12 Mattimore Street (Bertha Herzog); 14 Mattimore Street (Laszlo and Anna Fazekas); 16 Mattimore Street (Joe and Cindy Yu Wang); 18 Mattimore Street (Thomas Colucci); 20 Mattimore Street (E. Burdzy); 22 Mattimore Street (Roman and Tereza Goetz); 24 Mattimore Street (Stefan and Maria Goetz); 26 Mattimore Street (Joseph Banas) 28 Mattimore Street (John and Elizabeth Kubs); 30 Mattimore Street (Joan and Joseph Zavinsky), 32 Mattimore Street (Waldemar and Sophia Blaszczak); 80 Dayton Avenue (Mary Sudol and Helena Kociuba); and 82 Dayton Avenue (Mieczyslaw Burdzy).

The industrial buildings occupy Block 4054, Lots 4, 39, 50, and 70 in the city of Passaic. The residential buildings are also located on Block 4054, as follows: 6 Mattimore Street (Lot 124); 8 Mattimore Street (Lot 123); 10 Mattimore Street (Lot 122); 12 Mattimore Street (Lot 121); 14 Mattimore Street (Lot 120); 16 Mattimore Street (Lot 119); 18 Mattimore Street (Lot 118); 20 Mattimore Street (Lot 117); 22 Mattimore Street (Lot 116); 24 Mattimore Street (Lot 115); 26 Mattimore Street (Lot 114a); 28 Mattimore Street (Lot 114); 30 Mattimore Street (Lot 113); 32 Mattimore Street (Lot 112); 80 Dayton Avenue (Lot 111); and 82 Dayton Avenue (Lot 110).

Description

The Botany Worsted Mills Historic District, as listed in the National Register, consists of 69 contributing buildings and three contributing structures erected by Botany Mills between, with a few later exceptions, 1889 and 1917. They are contained within a compound bordered on the east by the Dundee Canal, on the south by Mattimore Street, on the west by Dayton Avenue, on the northwest by President Street and Barbour Avenue, and on the north by the former property line of the mill. The complex comprises about 26.4 acres. The complex, for the purpose of this documentation, additionally includes a partially intact footbridge and rail bridge, both of which rest over the canal.

Dolkart and Geismar (1990:8 - 7-8) summarized the appearance of the complex's early industrial buildings as follows:

> All of the nineteenth century and most of the early twentieth century buildings are brick structures with wooden beams. These buildings use the traditional slow-burning mill construction. The mills are utilitarian structures with a simple rhythm of rectangular or segmental-arched window openings and brick corbeling on exposed walls. Many of the buildings are one-story structures with saw tooth roofs that allowed a maximum amount of light to enter onto the extremely large floor areas. Others are more traditional multi-story structures with flat or peak roofs. Besides the mill structures, the complex also contains storage structures, boiler, engine, and turbine houses, and a carpenter's shop. All of these are also utilitarian buildings with simple brick elevations. Several of these structures have peak roofs or monitor roofs.

Of the buildings added in the 1910s, Dolkart and Geismar (1990:8 - 9) note:

Later buildings at the complex reflect the changes in the technology of factory construction that occurred early in the twentieth century as reinforced concrete replaced wood for structural support. The offices (No. 23), wash house and finishing building (No. 24), and the weaving building (No. 33) are all reinforced concrete structures with brick exterior walls and concrete floors and partitions.

The most notable ornamentation of the simply finished buildings is the brick corbeling of the west building elevations cum walls facing Dayton Street and the finish of the original office building (No. 1). The office's exposed face, looking north into the compound, is finished with a rusticated brick entrance arch, angled bands of bricks and beltcourses, and corbeled cornices and lintels. The later office attached to the west is also handsomely finished with a stone-enframed entry and window accents, a bracketed cornice, heavy iron window guards, and a notable winding interior stair lit by a decorative stained-glass window and skylight.

The industrial buildings are arranged in complexes of connected mill structures. The oldest complex, at the south end of the compound, was constructed for the manufacture of worsted yarns and includes combing, twisting, and spinning buildings. Complexes of buildings later erected near the center of the compound manufactured worsted cloth. A complex of dye houses were later added at the far north end of the compound. Boiler and engine houses, machine and carpenter shops, wash houses, and other subsidiary buildings were erected along the sides of and between the principal complexes. Spur rail lines once wove through the open spaces between the buildings.

A modern diagram of Botany Mills (Rutgers University Urban Design Studio 1977:15) depicts the flow of goods within the complex. Raw wool arrived on the railroad, entered through the Dayton Street entry and passed to the wool storage building (No. 18) at the rear (east) of the complex overlooking the canal. From there the wool passed through the mill buildings on the south and west sides of the complex, where it was washed, carded, combed, drawn, twisted, and spun. It then moved to the center of the complex where it was woven and finished and sent on to the piece and vat dyeing facilities at the north. From there it crossed Dayton Avenue to storage facilities that are no longer extant, in a part of the mill complex that is not included within the Botany Worsted Mills Historic District or the DCIHD. Rail spurs lines entering the complex from Dayton Avenue and across the canal, none of which remain extant, facilitated the movement of goods through the complex. (The design of the complex and movement of goods within it, while efficient for the production of worsted goods in the late nineteenth and early twentieth centuries, does not easily serve modern ends; the general manager of the industrial park that Botany Mills has been transmogrified into notes that the location of elevators, corridors, loading docks, and the like make modern efficient uses of the buildings extremely difficult (Emanuel 1997).)

The industrial buildings within the Botany Worsted Mills Historic District have seen little exterior alteration since their construction. Early in the plant's history, some original buildings were replaced by larger structures. Since 1931 some additional small buildings have been destroyed, generally for the construction of truck-loading docks. Otherwise, the principal changes to the buildings have been the bricking-in of windows and covering-over of many saw-toothed skylights.

In addition to the industrial buildings, the Botany Worsted Mills Historic District includes eight double-houses (No. 54 through No. 69) erected by the company for its workers on the north side of Mattimore Street at the far southern end of the compound. Among the first buildings erected by Botany, they are

nearly identical, two-story, double-pile, two-family houses marked by brick walls, segmental-arched windows, corbeled brick comices, and flat roofs. 82 Dayton Avenue (No. 69) at the corner of Mattimore Street is the only one to retain its original porch, which is adorned with turned wooden posts, scalloped brackets, and an open balustrade and screen. Other than the enclosure of the other porches, the houses, like the mill buildings, have been little altered. They continue to be separated from the industrial complex only by a long brick wall and a long shallow open courtyard between the wall and the south elevations of buildings No. 4 and 12.

The following inventory list is based upon Dolkart and Geismar's 1990 National Register nomination of the Botany Worsted Mills Historic District and field visits to the district in November, 1997. The first 53 numbers, keyed to a map adapted from Dolkart and Geismar, are those used in the nomination. The adapted map and the list below also includes numbers assigned, for the purposes of this HAER documentation, to a water tank (No. 43A) and two freestanding chimneys (No.s 17A and 46A), and to the eight duplexes (No. 54 through No. 69). (The 69 numbered buildings correspond to the 69 contributing buildings identified by Dolkart and Geismar in their nomination; the three number/letter designations correspond to the three contributing structures they identified.) Two additional resources not identified by Dolkart and Geismar--a partially intact railroad spur bridge (No.39a) and a deteriorated footbridge (No. 14a) that cross the canal at the complex's rear--have also been assigned numbers. (Four deteriorated pipes of undetermined age that are suspended across the canal behind the complex have not been mapped.) The names and dates are those assigned by Dolkart and Geismar, with minor corrections largely based upon the Sanborn maps. The first name given was that taken from the 1910 Sanborn Map of Passaic (if the building stood by that date); parenthetical names were taken from the 1918 Alien Property Custodian's announcement of the sale of Botany's stock. The dates, also in parenthesis, were derived by Dolkart and Geismar from the Sanborn atlases of 1894, 1899, 1910, and 1935; the 1901 E. Robinson Atlas of Passaic and Acquackanonk Township; and the 1916 Robinson, Wise, and Ginsberg Atlas of Passaic and Acquackanonk. Dolkart and Geismar's nomination should be consulted for more detailed building descriptions. All resources have brick facades unless otherwise noted. Corbels and pilasters are also of brick, unless otherwise noted.

1. Office (c.1889-1894; front (west) extension c.1903-1910) - Original office, within body of complex, contains one-and-one-half-story, north-facing entrance pavilion flanked by two-story hip-roofed wings. It is adorned with a slate roof, corbeled metal cornice, raised segmental arches, and ornately patterned brick insets. Two-story addition facing west towards Dayton Avenue is also ornately finished, with large, scrolled, iron window guards; wide brick pilasters; and limestone trim including a high watertable, keystones, and a classical entry enframement. The addition contains the complex's only notably decorative interior. A central winding stair with a cast iron railing and newel rises past a large stained-glass window portraying a stag, a bee, a female spinner and spinning wheel, and the company logo. A stained-glass skylight lights the stairwell. The addition replaced an 1890s timekeeper's office.

2. Spinning Building No. 4 (Mill No. 6; c.1899-1901) - One-story building with saw-toothed roof. Dayton Avenue elevation forms a long dramatic brick wall marked by a series of blind arcades separated by pilasters and half-round arches that are topped by a battlement of corbeled-out pilasters and dentils.

3. Spinning Building No.3 (Mill No. 5; c. 1889-1894) - One-story building with saw-toothed roof. Hidden by surrounding buildings and modern truck loading bay at north front elevation.

4. Twisting Building (Mills No. 7, 8, and 9; c.1899-1901) - Long, rectangular, three-story building with shallow peaked roof and prominent, rectangular, hip-roofed, central tower. Recessed panels edged by pilasters and brick corbels face Dayton Avenue. Replaced a one-story lunch room building.

5. Spinning Building No. 2 (Mill No. 4; c.1889-1894) - One-story building with saw-toothed roof. Hidden by surrounding buildings and by a modem truck loading bay at north front elevation that replaced a machine shop.

6. Spinning Building No. 1 (Mill No. 3; c.1889-1894) - One-story building with saw-toothed roof. Hidden by surrounding buildings and by a modem truck loading bay at north front elevation that replaced several small buildings utilized as a pipe shop, fan room, office, pump room, and emergency hospital.

7. Machine Repair and Blacksmith (Engine House No. 1; c.1889-1894) - Four-story building with shallow peaked roof, large multi-paned windows, and pilasters framing panels.

8. Preparing Building (Mill No. 2; c.1889-1894) - One-story building with saw-toothed roof. Almost entirely hidden by surrounding buildings.

9. Steam Turbine House (Turbine No. 2; c.1903-10) - One-story building with brick parapet, large rectangular windows, and concrete coping. Of fireproof construction with reinforced concrete floor and concrete and tile roof.

10. Combing Wash House (Wash House No. 1; c.1889-1894) - One-story gable-end building with monitor roof and panels separated by pilasters and corbels. Cinder block wall at west elevation.

11. Combing Building (Mill No. 1; c.1889-1894) - One-story building with saw-toothed roof almost hidden by surrounding buildings.

12. Back Washing Room (c.1894-1899) - Three-story building with flat roof. One-story fan-room extension at east end edged by parapet walls overlooking canal.

13. Bobbin Repairing and Storage (Mattimore Street Store House; c.1894-1899) - One-story building with flat roof at end of Mattimore Street. Footbridge that once extended across canal from Mattimore Street to Andrew McLean Company Textile Mill is no longer extant

14. Wool Combing (c.1894-1899) - One-story building with saw-toothed roof, which is clearly visible at east canal-facing elevation.

14A. Footbridge (c. 1917) Skeletal walkway edged with some surviving pipe railings that crosses canal, near rear of No. 14, to site of 1917 Botany Lanolin Retrieval Plant (discussed further below). Wooden and concrete deck, with large open gaps, covers iron pipe on underside of bridge. Iron security fence fans out from location of former gate on bridge. East end of bridge has been dismantled, so that one can no longer cross the canal on the structure.

15. Mill No. 1 Addition (Mill No. 1A; c.1899-1901) - Two-story building with flat roof and panels separated by pilasters.

16. Carpenter, Supply Storage, and Pattern Storage (Carpenter Shop; c.1889-1894) - Two-story building with gable-front pedimented roof, adorned with pilasters and heavily raised corbels. Originally divided into two sections with storage at front and carpenter's shop at rear.

17. Boiler House (Boiler House No. 1; c.1889-1894) - Two-story building with monitor roof, adorned with limestone keystones, lintels, and sills, and by panels separated by pilasters. One-story flat-roofed addition to east. Tall freestanding chimney to front (west) of building no longer extant.

17A. Chimney (c.1889-1894) - Freestanding 225' brick stack rising to the rear (west) of No. 17.

18. Wool Store House No. 1 (c.1889-1894) - Five-story building with central hipped-roof and flat-roofed wings, marked by pilasters and corbels.

19. Spinning Building (Spinning Building No.14; c.1903-1910) - Four-story building with shallow peaked roof underpinned by corbels and full-height pilasters. Building reportedly originally used for new wool storage, with the tall ventilation shafts built into its outside walls carrying humidified air to keep the wool damp (Rutgers University Urban Design Studio 1977:97).

20. Cloth Room (c.1899-1900) - Two-story building with saw-toothed roof. Modern loading dock added at west elevation.

21. Weaving (Weave Shed; c.1899-1900) - One-story building with saw-toothed roof edged by corbels. Small one-story office building on south end no longer extant.

22. Weaving Building No. 2 (c.1889-1894) - One-story building with saw-toothed roof. Modern truck dock at south end replaced earlier four-story office building.

23. Offices (Office Building; 1917) - Four-story building with brick curtain wall and reinforced concrete frame, pilasters, floors, and flat roof. Fireproof construction. Connected at east rear to No. 24 by third- and fourth-story corrugated-metal hyphen.

24. Wash House and Finishing (Mill No. 10; 1917) - Four-story building with reinforced concrete frame and floors, brick curtain wall, and concrete and tile roof. Fireproof construction. Large windows with metal sash. Connected at southwest corner to No. 23 by third- and fourth-story corrugated-metal hyphen.

25. Boiler House? (Boiler House No. 2; c.1894-1899) - Small one-story building with peaked roof.

26. Carbonizing Building (c.1903-1910) - Two-story building with shallow peaked roof and panels divided by pilasters. Fireproof construction but for wooden roof.

27. Bleach House (c.1903-1910) - One-story building with saw-toothed roof clearly visible on east-facing canal elevation. Replaced one-story frame store house.

28. Engine Room (Engine House No. 1; c.1899-1901) - One-story building with flat roof, corbels, and pilasters defining panels.

29. Wool House (Wash House No. 2; c.1899-1901) - One-story gable-end building with monitor roof. Small, one-story, flat-roofed addition to west used for wood chipping and storage and as paint shop.

30. Wool Spinning (Mill No. 10; c.1899-1901) - One-story building with visible saw-toothed roof.

31. Picker Room (c.1899-1901) - One-story building with saw-toothed roof. Used for "stock oiling" in 1903.

32. Weaving Building (Weave Shed; c.1889-1894) - One-story building with saw-toothed roof. Steel framework of piers and I-bars along east side elevation shared by buildings No. 24, 36, and 37, opposite.

33. Weaving Building No. 4 (Weaving Building North;1914) - Large five-story building with reinforced concrete frame, corner towers edged with parapets, and brick, concrete, and glass curtain walls. Fireproof construction. Notable for large expanses of glass in steel frames. Replaced tank house.

34. Store House (Store House North; c.1899-1901) - Large four-story building with peaked roof and panels framed by full-height pilasters. Replaced tank house.

35. Wash House (Finishing Room; c.1899-1901) - One-story building with saw-toothed roof and long line of windows overlooking canal.

36. Wash House (Finishing Room; c.1889-1894) - One-story building originally part of building No. 35.

37. Drying Room (Finishing Room; c.1889-1894) - One-story building with saw-toothed roof visible at east canal-facing elevation.

38. Pressing Building (Finishing Building; c.1910-1916) - Four-story building with shallow peaked roof and panels separated by pilasters. Not on 1910 Sanborn but shown in 1916 photograph (Banas). Replaced one-story dye house erected between 1889 and 1894.

39. Finishing (Steaming Room; c.1903-1910) - One-story building with saw-toothed and shallow peaked roof. A large water tank to north is no longer extant. Modern wooden deck at east elevation extends to canal's edge.

39A. Railroad Bridge (c.1899-1903) - Metal through plate girder railroad bridge. Originally carried spur line of Erie Railroad across canal into mill complex. Plate girders of third of bridge extending

from east bank of canal to concrete pier in canal are in place; other two-thirds, which crossed via a second pier in the canal, no longer extant. Deck and track have also been removed.

40. Boiler House (Boiler House No. 3; c.1899-1903) - One-story building with monitor roof and pilasters.

41. Boiler House (Boiler House No. 5; c.1910-1918) - One-story building with monitor roof and pilasters. Replaced iron-clad machinery storage building.

42. Wool Dye House (1906) - Two-story building with shed roof built as wing to building No. 43.

43. Wool Dye House (1906) - Large two-story building with three sections, each with monitor roof. Reinforced concrete and brick construction.

43A. Water Tank (c.1906-1918) - 700,000-gallon metal water tank northeast of building No. 43 raised high on metal frame.

44. Wool Dye House (1918) - Long one-story building with monitor roof. Fire-proof construction with steel frame, brick walls, concrete and tile roof.

45 Wool Storage (c.1918-1935) - Originally a corrugated iron building, now stuccoed and affixed to building No. 44.

46. Economy House (Boiler House No. 6 in part; c.1903-1910) - One-story building with peaked roof. North elevation facing President Street marked by corbeled panels.

46A. Chimney (c.1903-1910) - Tall 139' freestanding brick stack rising to east of building No. 46.

47. Boiler House (Boiler House No. 6; c.1903-1910) - Two-story building with monitor roof. North elevation facing President Street marked by corbeled panels.

48. Boiler House (Boiler House No. 4 in part; c.1889-1901) - One-story flat-roofed building attached to north end of building No. 50. President Street elevation has corbeled panels; Dayton Avenue facade features corbeled panels and blind segmental arches.

49. Steam Turbine House (Turbine House No. 1; c.1903-1910) - Tall one-story-and-basement building with peaked roof and low, rectangular, flat-roofed tower at south side. Fireproof construction--reinforced concrete frame, brick bearing walls, concrete floor, concrete and tile roof.

50. Boiler House (Boiler House No. 4; c.1899-1901) - One-story building with monitor roof. Dayton Avenue elevation features corbeled panels and blind segmental arches.

51. Yard and Time Offices (Lunch House; c.1903-1910) - Long two-story building with peaked roof. Dayton Avenue elevation features segmental-arched openings and corbeled panels. Large one-story concrete block addition to northeast replaced locomotive house.

52. Gate Office (Time Keepers Office; c.1903-1910) - One-story shed-roofed building with concrete block infill. Dayton Avenue elevation features blind segmental arches. Attached iron gates to north were once principal plant entryway.

53. Gate House (after 1931, before 1943) - Small, one-story, flat-roofed building now housing security guard.

54. Millworker's House at 6 Mattimore Street (c.1889-1894) - East half of two-story, two-family, double-pile, brick house at 6-8 Mattimore Street with enclosed porch, segmental-arched windows, flat roof, and corbeled brick cornice. Identical to other Botany-built Mattimore Street houses.

55. Millworker's House at 8 Mattimore Street (c.1889-1894) - West half of two-story, two-family, double-pile, brick house at 6-8 Mattimore Street with enclosed porch, segmental-arched windows, flat roof, and corbeled brick cornice. Identical to other Botany-built Mattimore Street houses.

56. Millworker's House at 10 Mattimore Street (c.1889-1894) - East half of two-story, two-family, double-pile, brick house at 10-12 Mattimore Street with enclosed porch, segmental-arched windows, flat roof, and corbeled brick cornice. Identical to other Botany-built Mattimore Street houses.

57. Millworker's House at 12 Mattimore Street (c.1889-1894) - West half of two-story, two-family, double-pile, brick house at 10-12 Mattimore Street with enclosed porch, segmental-arched windows, flat roof, and corbeled brick cornice. Identical to other Botany-built Mattimore Street houses.

58. Millworker's House at 14 Mattimore Street (c.1889-1894) - East half of two-story, two-family, double-pile, brick house at 14-16 Mattimore Street with enclosed porch, segmental-arched windows, flat roof, and corbeled brick cornice. Identical to other Botany-built Mattimore Street houses.

59. Millworker's House at 16 Mattimore Street (c.1889-1894) - West half of two-story, two-family, double-pile, brick house at 14-16 Mattimore Street with enclosed porch, segmental-arched windows, and corbeled brick cornice. Identical to other Botany-built Mattimore Street houses.

60. Millworker's House at 18 Mattimore Street (c.1889-1894) - East half of two-story, two-family, double-pile, brick house at 18-20 Mattimore Street with enclosed porch, segmental-arched windows, and corbeled brick cornice. Identical to other Botany-built Mattimore Street houses.

61. Millworker's House at 20 Mattimore Street (c.1889-1894) - West half of two-story, two-family, double-pile, brick house at 18-20 Mattimore Street with enclosed porch, segmental-arched windows, flat roof, and corbeled brick cornice. Identical to other Botany-built Mattimore Street houses.

62. Millworker's House at 22 Mattimore Street (c.1889-1894) - East half of two-story, two-family, double-pile, brick house at 22-24 Mattimore Street with enclosed porch, segmental-arched windows, flat roof, and corbeled brick cornice. Identical to other Botany-built Mattimore Street houses.

63. Millworker's House at 24 Mattimore Street (c.1889-1894) - West half of two-story, two-family, double-pile, brick house at 22-24 Mattimore Street with enclosed porch, segmental-arched windows, flat roof, and corbeled brick cornice. Identical to other Botany-built Mattimore Street houses.

64. Millworker's House at 26 Mattimore Street (c.1889-1894) - East half of two-story, two-family, double-pile, brick house at 26-28 Mattimore Street with enclosed porch, segmental-arched windows, flat roof, and corbeled brick cornice. Identical to other Botany-built Mattimore Street houses.

65. Millworker's House at 28 Mattimore Street (c.1889-1894) - West half of two-story, two-family, double-pile, brick house at 26-28 Mattimore Street with enclosed porch, segmental-arched windows, flat roof, and corbeled brick cornice. Identical to other Botany-built Mattimore Street houses.

66. Millworker's House at 30 Mattimore Street (c.1889-1894) - East half of two-story, two-family, double-pile, brick house at 30-32 Mattimore Street with enclosed porch, segmental-arched windows, flat roof, and corbeled brick cornice. Identical to other Botany-built Mattimore Street houses.

67. Millworker's House at 32 Mattimore Street (c.1889-1894) - West half of two-story, two-family, double-pile, brick house at 30-32 Mattimore Street with enclosed porch, segmental-arched windows, flat roof, and corbeled brick cornice. Identical to other Botany-built Mattimore Street houses.

68. Millworker's House at 80 Dayton Avenue (c.1889-1894) - South half of two-story, two-family, double-pile, brick house at 80-82 Dayton Avenue with enclosed porch, segmental-arched windows, flat roof, and corbeled brick cornice. Almost identical to Botany-built Mattimore Street houses to east.

69. Millworker's House at 82 Dayton Avenue (c.1889-1894) - North half of two-story, two-family, double-pile, brick house at 80-82 Dayton Avenue with segmental-arched windows, flat roof, and corbeled brick cornice. Porch with turned wooden posts, scalloped brackets, and open balustrade and screen is only original porch among the almost identical Botany-built Mattimore Street houses.

(Site of) 95-97 Dayton Avenue

The double house on this lot at the southwest corner of the junction of Sherman Street and Dayton Avenue is no longer extant. It was built by Botany Mills, with a small number of other residences, between the establishment of the factory in 1889 and the drawing of the 1894 Sanborn map. A two-story, double-pile, two-family, brick dwelling, it was first recorded as part of the inventory of the city of Passaic in 1984 on NJ Inventory form #1607-097 (Meadows 1994), which recommended it for listing in the National Register. The Memorandum of Agreement that prompted the drafting of the present HAER document included this house within the Dundee Canal Industrial Historic District. In 1989, probably in response to impending demolition, 95-97 Dayton Avenue was assigned Historic American Buildings Survey (HABS) No. NJ-977 and recorded on a HABS architectural data form (Milner 1989). At that time, or shortly thereafter, the house--and all other buildings on the west side of Dayton Avenue opposite the current Botany Worsted Mills Historic District--was demolished. Its site is subsumed by a large paved parking lot.

The site of 95-97 Dayton Avenue is owned by the Passaic City Utilities Authority. It occupies Block 4057, Lot 10 in the city of Passaic.

Botany Mills Lanolin Retrieval Site

Botany Mills was reportedly the first mill in the United States to recover the grease extracted from wool during the cleaning process and convert it into lanolin. Under the Botany name, the company distributed lanolin-based products, including soaps, creams, lipsticks, lotions, and face powders (Mooman 1949:138).

The Botany Mills Lanolin Retrieval or Grease Plant, at which these lanolin-based products were produced, is no longer extent. It was located on a strip of land between the Dundee Canal and the Passaic River, east of the principal Botany Mills complex and north of the Andrew McLean Textile Company. Maps, photographs, and an illustration of the factory complex memorialize its date of construction and appearance. It does not appear on a 1916 (Robinson, Wise, and Ginsberg) atlas of Passaic, but is shown on the 1918 Sanborn map of the city. Historic photographs in the collection of Joseph Banas picture its construction in 1917. It was one of the last buildings built by Botany, which ceased construction activities after its 1918 seizure by the federal govemment. The 1918 Sanborn labels the small complex "Botany Worsted Mills Grease Plant." It pictures four buildings. Facing west towards the Erie Railroad tracks, the Dundee Canal, and the main Botany complex are two adjacent buildings of fireproof construction. The long rectangular building to the south was the grease plant. One-story tall, it had brick walls and a concrete floor and roof. Across its west elevation was stretched a narrow, half-story, refuse basin of reinforced concrete. Photographs picture a monitor extended from end to end of its gabled roof. The boiler house to its north was also rectangular and two stories tall. Built of brick with a cement floor, it too had a gable-end roof topped by a monitor. To the rear (east) of the grease plant building, according to the Sanborn map, stood a tiny brick water closet and a narrow, rectangular, frame, grease shed that was open on the west. A footbridge, described above with the main Botany Mills complex (No. 14A), crossed the canal in front (west) of the grease facility. By 1935 (Sanborn Map Company) a small rectangular building had been added behind (east) the building with the boiler house. A tiny building about the size of the water closet had also been added behind the frame shed. The entire facility was razed between about 1950 (Sanborn Map Company) and 1980.

A preliminary archaeological assessment of the site suggested that it had potential historic archaeological significance for its association with the lanolin retrieval operation (Rutsch 1988:152-154). It also contained potential prehistoric components. The New Jersey State Historic Preservation Office subsequently determined that site 28PA143 (The Dundee Site) on the property was eligible for National Register listing. URS Greiner, Inc., archaeologists excavated the prehistoric site between October, 1996, and June, 1997. The site was located around and amidst the remnants of the foundation walls of the lanolin facility, which were buried beneath two to ten feet of coal ash and residential refuse. The archaeological investigations encountered concrete and brick foundation walls, and old sewer pipes and electric line. They suggested that the facility was razed and pushed over the edge of the bank into the Passaic River. Significant prehistoric materials were recovered during the excavation, but the site was not found to have any historic archaeological significance. The excavation of the site was conducted to satisfy a portion of the requirements of the same MOA for which this HAER recordation was undertaken.

The Botany Mills Lanolin Retrieval Site is owned by the New Jersey Department of Transportation. It occupies the southem portion of Block 1051, Lot 25 in the city of Passaic, from the railroad bridge (No. 39A) over the Dundee Canal south to the property line of the Andrew McLean Company Textile Mill.

Dundee Textile Company Mill[5]

History and Significance

The Dundee Textile Company purchased 13-1/2 acres of land from the Dundee Water Power and Land Company in May, 1901 (Passaic County Deed Book Z-14, Page 354). The property was located on a long finger of land in Clifton between the Dundee Canal and the Passaic River. By the production of the 1903 Sanborn map of Passaic, Dundee Textile had erected almost all of the present complex. The mill was established to produce silk and, to a lesser extent, cotton goods. Silk, like the worsted goods of Botany Mills and the mosquito nettings, crinolines, and buckrams of the Andrew McLean Textile Company, was one of the specialty textile products that characterized the industrial production of Passaic, Clifton, and surrounding communities from the last decade of the nineteenth century through World War II (John Milner Associates 1987, Vol. II:133). Dundee Textile was a southern extension of New Jersey's silk manufactories, which were centered up the Passaic River in Paterson.

Although not a worsted mill, Dundee Textile was part of Passaic's labor upheaval in the 1920s. It was struck during the great Passaic textile strike of 1925-1926, along with the Botany Mills and others (Murphy 1974:63). The company survived the strike, but not the Depression. In 1936 the mill complex was sold to the Tidewater Realty Company. By that date the complex already shared its silk production facilities with a paper box manufacturing company. Subsequently the complex stopped producing silk and took in occupants including a rubber company and an aircraft products firm. In 1973 it was acquired by the Universal Metal Chain Company, which utilized its buildings for the manufacture of metal chains (John Milner Associates 1987, Vol. II:133-134). It is now used by the Safas Corporation, which produces fiberglass pellets utilized in the production of imitation granite counter tops.

The Dundee Textile Mill complex retains much of its integrity of location, design, setting, materials, workmanship, feeling, and association. It is significant for its association with the speciality textile industry that dominated the area in the late nineteenth and early twentieth centuries.

The Dundee Textile Mill is owned by the Dundee Water Power and Land Company. It occupies the southern portion of Lot 2 of Block 3.16 in the city of Clifton.

Description

The Dundee Textile Mill complex is one large interconnected structure. At its heart is a massive, rectangular, one-story brick building (Building No. 1) erected between 1901 and 1903 (Sanborn Map Company) to house weaving, warping, dyeing, finishing, and packing operations. This functional industrial building is marked by segmental arched windows and a sea of saw-toothed roofs edged by bull's-eye windows and star-shaped reinforcing rod anchors. The saw-toothed roofs, marked by long bands of

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[5] The following history and description of the Andrew McLean Textile Mill is based in part upon a National Register eligibility assessment prepared by John Milner Associates, Inc. (1987, Vol. II:132-135) as part of a study of the historic architecture of the Route 21 extension project, and by a study of the Sanborn maps of 1903 and 1910.

windows, were designed to bring the maximum amount of light to the factory floor. Affixed to the edges of or barely contained within this building are two smaller, subsidiary, contemporaneous, one-story buildings--a boiler house (Building No. 2) and an office (Building No. 3). Between 1903 and 1910 (Sanborn Map Company) two additional extant buildings were added, a shipping room (Building No. 4) and a store house/laboratory and examining and drying room (Building No. 5). Small one-story brick buildings erected between 1903 and 1910 at the northwest corner of the building--a machine shop/winding and warping room, and a storehouse/ twisting and examining room--were demolished after 1987, as was a small frame building erected after 1910 at the northwest corner of the boiler room. A railroad spur line that once ran along the western edge of the complex, adjacent to the canal, is also no longer extant. Even with the removal of these minor resources, the complex remains largely intact.

The complex occupies the southern portion of Lot 2 of Block 3.16 in the city of Clifton. At its west side it is edged by the Dundee Canal. Ackerman Avenue forms the south boundary and the Passaic River the east boundary. On the north it is bounded by a line extending from the canal to the river, parallel to Building No. 1, located about 120 feet northwest of the current northwest corner of the building. This northern boundary takes in the complex's current parking lot and open storage areas. It conforms with the boundary established when the complex was determined eligible for the National Register.

The information for the following building descriptions was taken from the Sanborn maps of 1903 and 1910.

Building No. 1 (c.1901-1903) - This massive, one-story, rectangular, brick building was erected between the 1901 acquisition of the property and the drawing of the 1903 Sanborn map of Passaic. The building, which contained a variety of functions, is topped by a saw-toothed roof edged by star-shaped reinforcing rod anchors and some surviving bull's-eye windows. Its extensive floor space was lit by segmental-arched windows and, more importantly, bands of glass, set into the saw-toothed roofs, which are now covered by corrugated fiberglass panels. The southern half of the building was a large weave shed according to the 1903 and 1910 Sanborns. The northeastern corner in these years contained a weaving and warping room. At the center of the building in 1903 were dye houses with masonry floors. By 1910 the centermost dye house had been converted to a filling room. East of this room and at the northwest building corner in 1903 a variety of operations took place, including drying, finishing, and packing. By 1910 these rooms had largely been converted to a machine shop, a drying room and, at the northwest corner, an additional weaving room.

Building No. 2 (c.1901-1903) - This building, called the boiler house on the 1903 and 1910 Sanborns, is built into the western wall of Building No. 1. Its segmental arched windows face the Dundee Canal. One-story tall, it is topped by a gabled monitor skylight. Stepped parapet walls pierced by round openings edge its north and south elevations. Rising from near the northwestern edge of the building is a soaring brick chimney stack adorned at its top with bands of patterned brick work.

Building No. 3 (c.1901-1903) - A one-story rectangular office projects from the south end of Building No. 1. The 1903 and 1910 Sanborns show it containing a waiting room at its center, a cloak room at its west end, and an office at its east end. The building's front (south) facade is striking, almost rising above the largely utilitarian appearance of the complex. It is crowned by a parapet wall that steps up at its central three bays. Above these bays is a recessed three-part triangular panel with a boarded-over circular

opening at its center. The flanking bays are set in recessed rectangular panels. These recesses are marked by corbeled edges and corbeled drops at their centers. After 1987 the front door was bricked in. A small, flat-roofed, cinder block addition was erected to the front of the east end of the office building, apparently after 1950. Its east wall abuts Building No. 4. The office building and addition are partially hidden by the modern roadway that sweeps past them from Ackerman Avenue, which is raised to span the canal and the Passaic River.

Building No. 4 (c.1903-1910, c.1910-1935) - This building was erected between 1903 and 1910, when it was labeled on the Sanborn map as the "shipping" room. It is a rectangular block with a clipped southeast corner. Originally one story tall, it had a flat-roofed second story added prior to 1935. Two large modern truck bays have been cut into the first floor of its front (south) facade. Above one is evidence of a segmental arched opening. The original bays are topped by segmental arches as well.

Building No. 5 (c.1903-1910) - Attached to the center of the north rear of Building No. 1 is gable-front laboratory/store room with segmental arched windows. To its east, also attached to Building No. 1, is a one-story, shed-roofed, examining and drying room, which was extended further to the east after 1910. These paired structures, altered with modern window infill, now hold office space for the Safas Corporation.

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Historic Views

Banas, Joseph, repository

c.1904-1918 Collection of multiple albums containing approximately 200 photographs that record details of construction of Botany Worsted Mills between c.1904 and c.1918. In possession of Joseph Banas, long-time employee and head engineer of Botany Mills, Passaic, NJ.

Betmar Hat Company, repository

c.1913 Large rendering of Andrew McLean Company Textile Mills complex mounted on wall of Betmar Hat Company offices in Building No. 1 at McLean complex, Passaic, NJ.

Helmsley-Spear, Inc., repository

c.1935-1940, c.1970s Large rendering (c.1935-1940), and large composite aerial photograph (c.1970s), of Botany Worsted Mills complex mounted on wall of Helmsley-Spear, Inc. rental office in former Botany Mills Office Building, Passaic, NJ.

Passaic City Engineer's Office, repository

c.1938-1941; c.1970s Approximately 15 aerial photographs of Botany Mills and Andrew McLean Textile Mills complexes (c.1970s) and 5 photographs of Dundee Canal (c.1938-1941) on file at the Passaic City Engineer's Office, Passaic City Hall, Passaic, NJ.

The following repositories, which were found to contain no historic photographs of the DCIHD, were also visited: the Passaic Public Library and the Reid Library in Passaic; the Paterson Public Library and the Passaic County Historical Society in Paterson, NJ; the New Jersey Historical Society in Newark; and the Library of Congress in Washington, DC.

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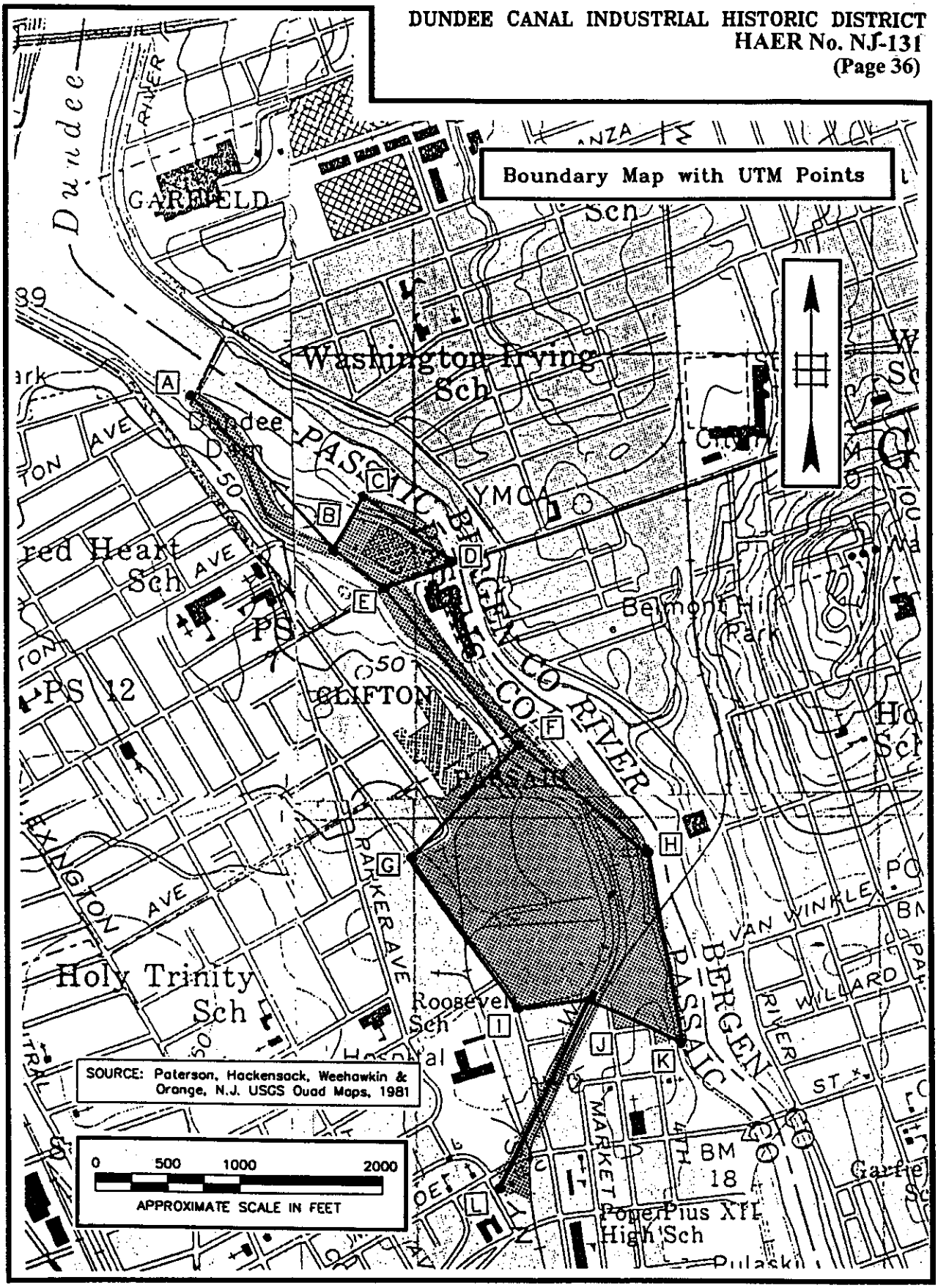
Boundary Map with UTM Points
A
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SOURCE: Paterson, Hackensack, Weehawkin & Orange, N.J. USGS Quad Maps, 1981
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APPROXIMATE SCALE IN FEET
Dundee
GARFIELD
Washington Irving Sch
YMCA
Red Heart Sch
PS
PS 12
CLIFTON
PASSAIC
BERGEN CO
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Belmont Park
Holy Trinity Sch
Roosevelt Sch
Hospital
BERGEN
PASSAIC
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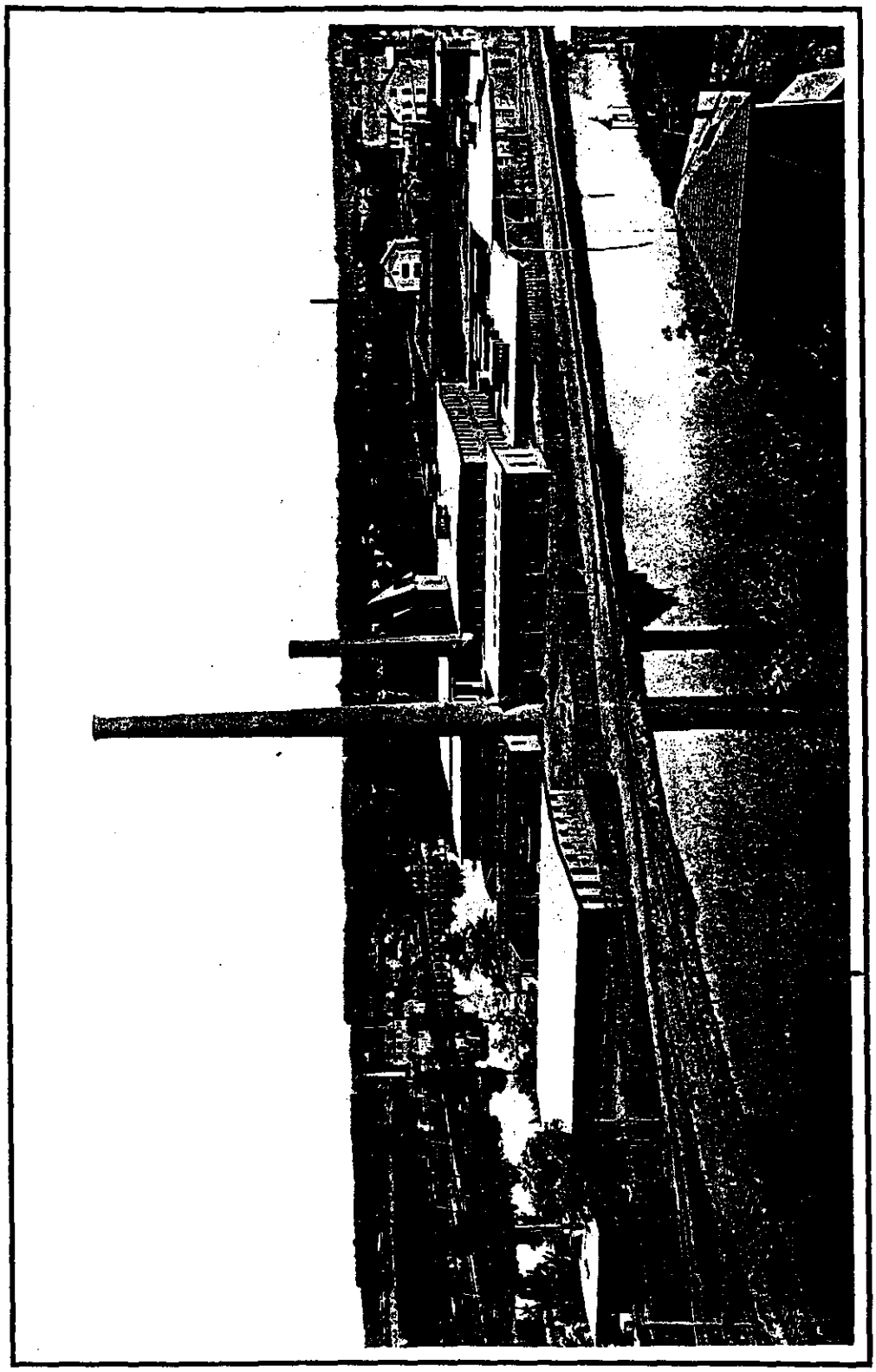
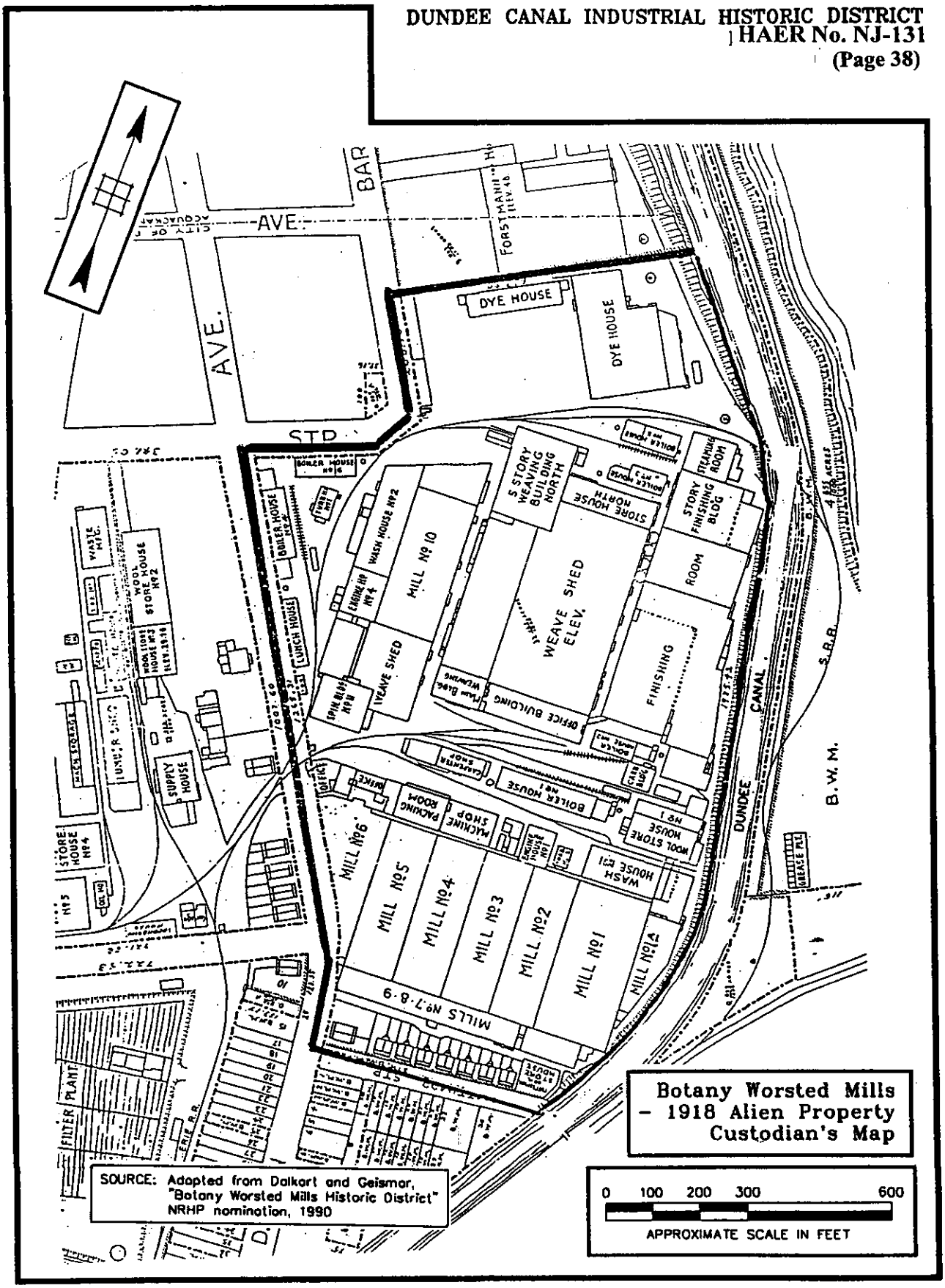


Andrew McLean Textile Mill, c. 1899

SOURCE: Pope and Scott, News' History of Passaic, 1899


AVE.
BAR
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DYE HOUSE
STP
MILL No. 10
WEAVE SHED
WEAVE SHED ELEV.
5 STORY WEAVING BUILDING NORTH
STORE HOUSE NORTH
STORY FINISHING BLDG
ROOM
FINISHING
OFFICE BUILDING
BOILER HOUSE
MILL No.6
MILL No.5
MILL No.4
MILL No.3
MILL No.2
MILL No.1
MILL No.1A
MILLS No.7.8.9
WASH HOUSE
WOOL STORE HOUSE
MACHINE SHOP
PACKING ROOM
DUNDEE CANAL
B.W.M.
S.B.B.
STORE HOUSE No.4
SUPPLY HOUSE
WOOL STORE HOUSE No.2
FILTER PLANT
ERIE R.R.
Botany Worsted Mills
– 1918 Alien Property
Custodian's Map
SOURCE: Adopted from Dalkart and Geismar, "Botany Worsted Mills Historic District" NRHP nomination, 1990
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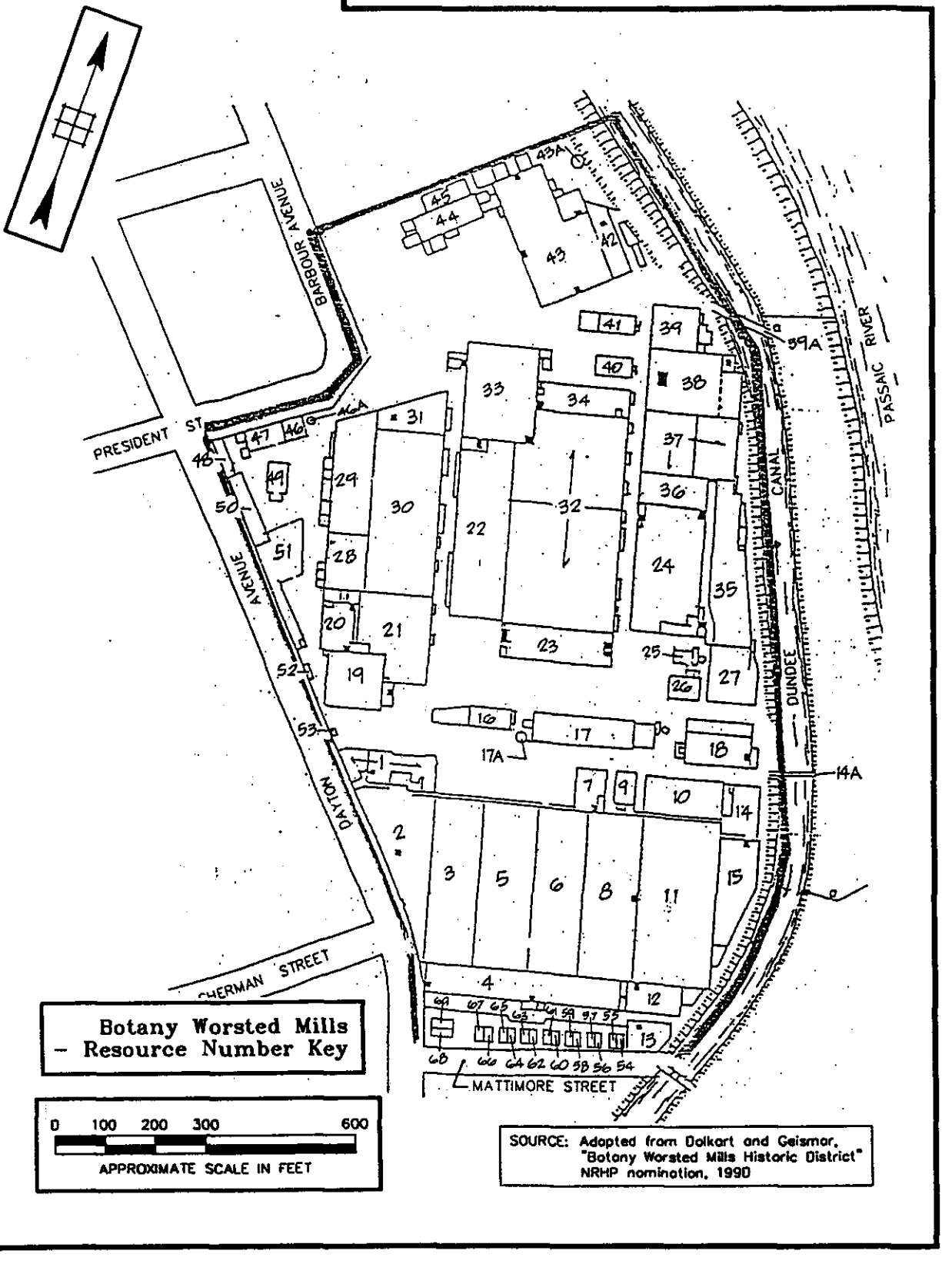
BARBOUR AVENUE
PRESIDENT ST
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DAYTON
CHERMAN STREET
MATTIMORE STREET
DUNDEE CANAL
PASSAIC RIVER
Botany Worsted Mills
– Resource Number Key
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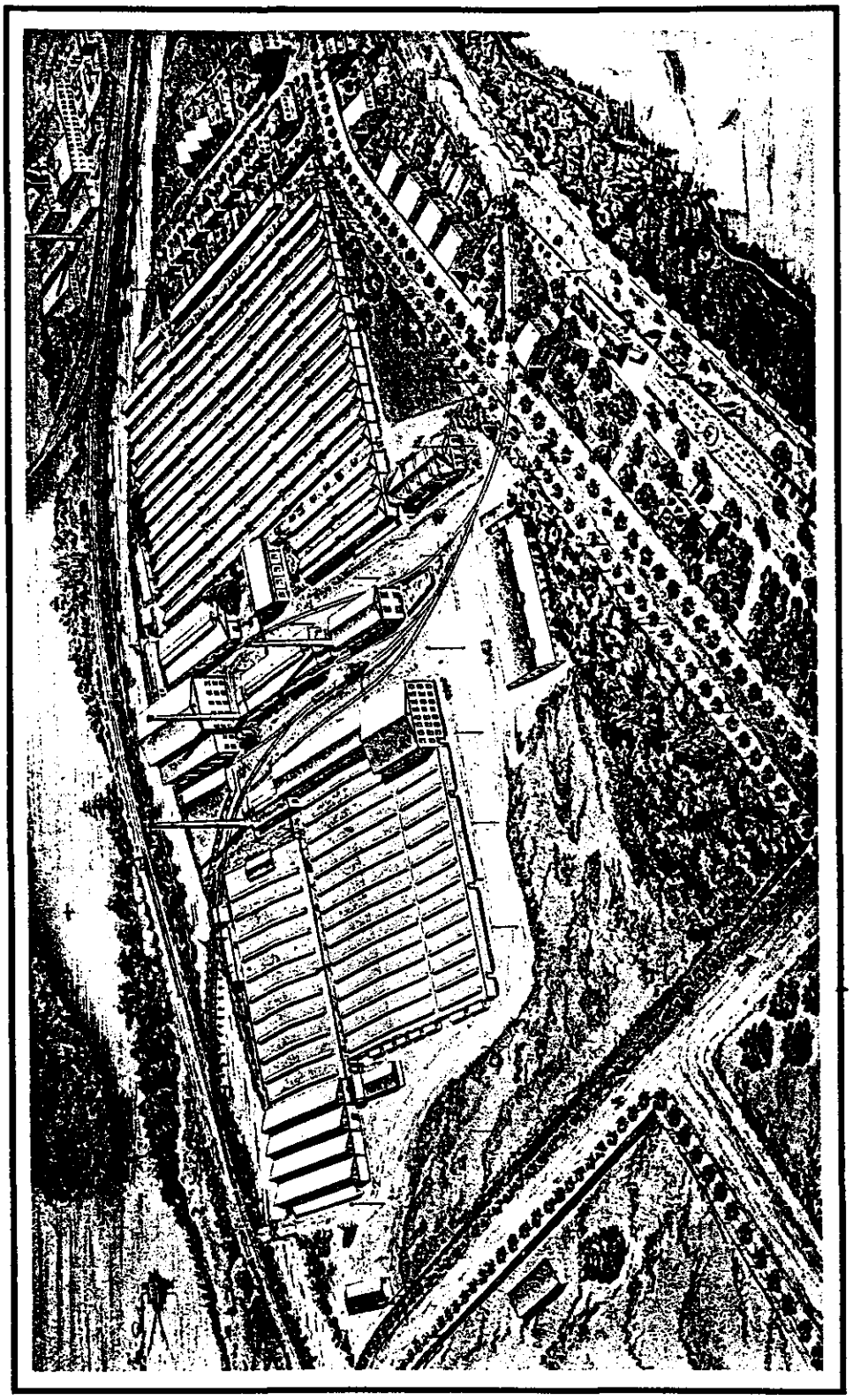
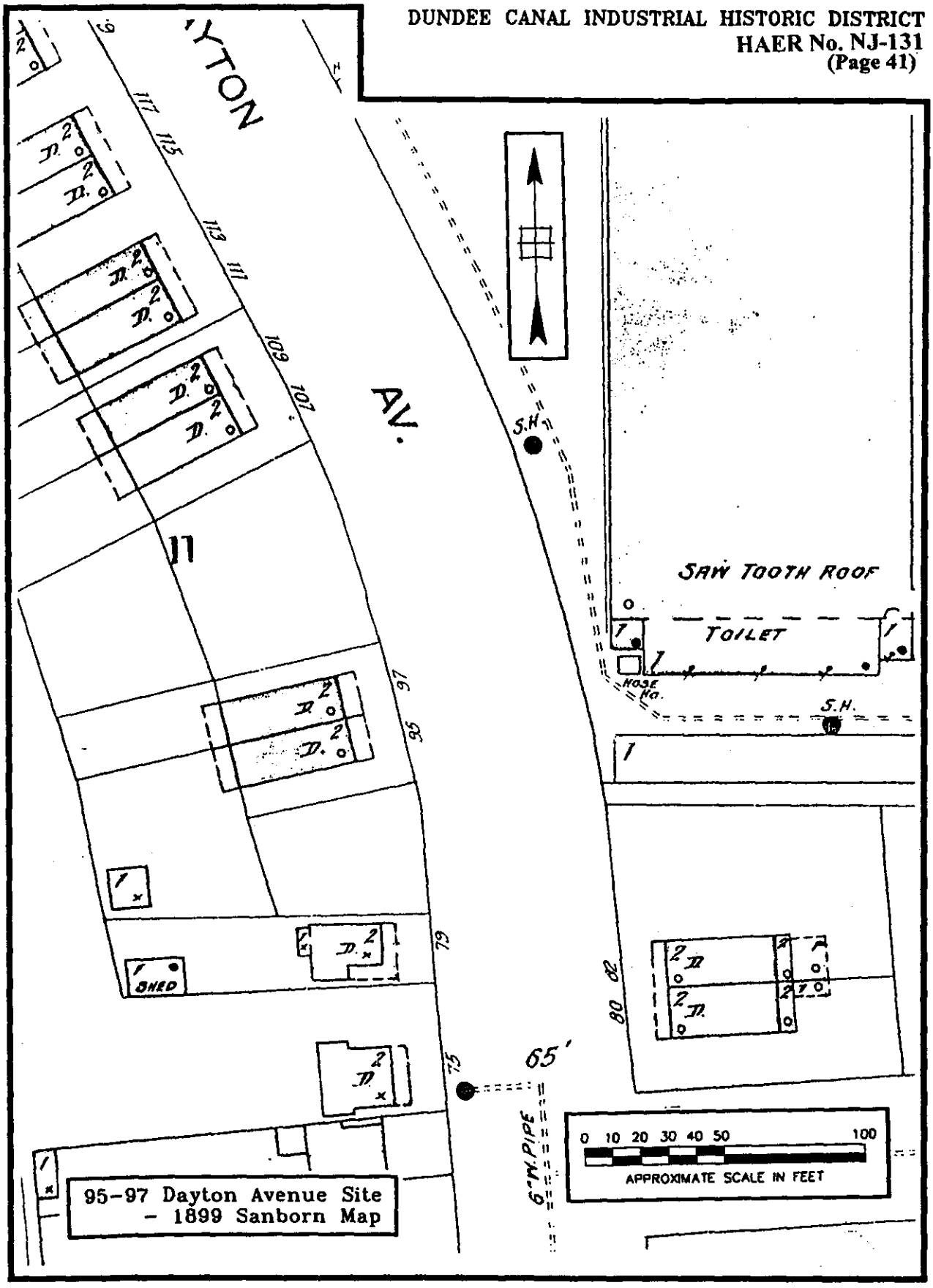
APPROXIMATE SCALE IN FEET
SOURCE: Adapted from Dolkart and Geismar, "Botany Worsted Mills Historic District" NRHP nomination, 1990

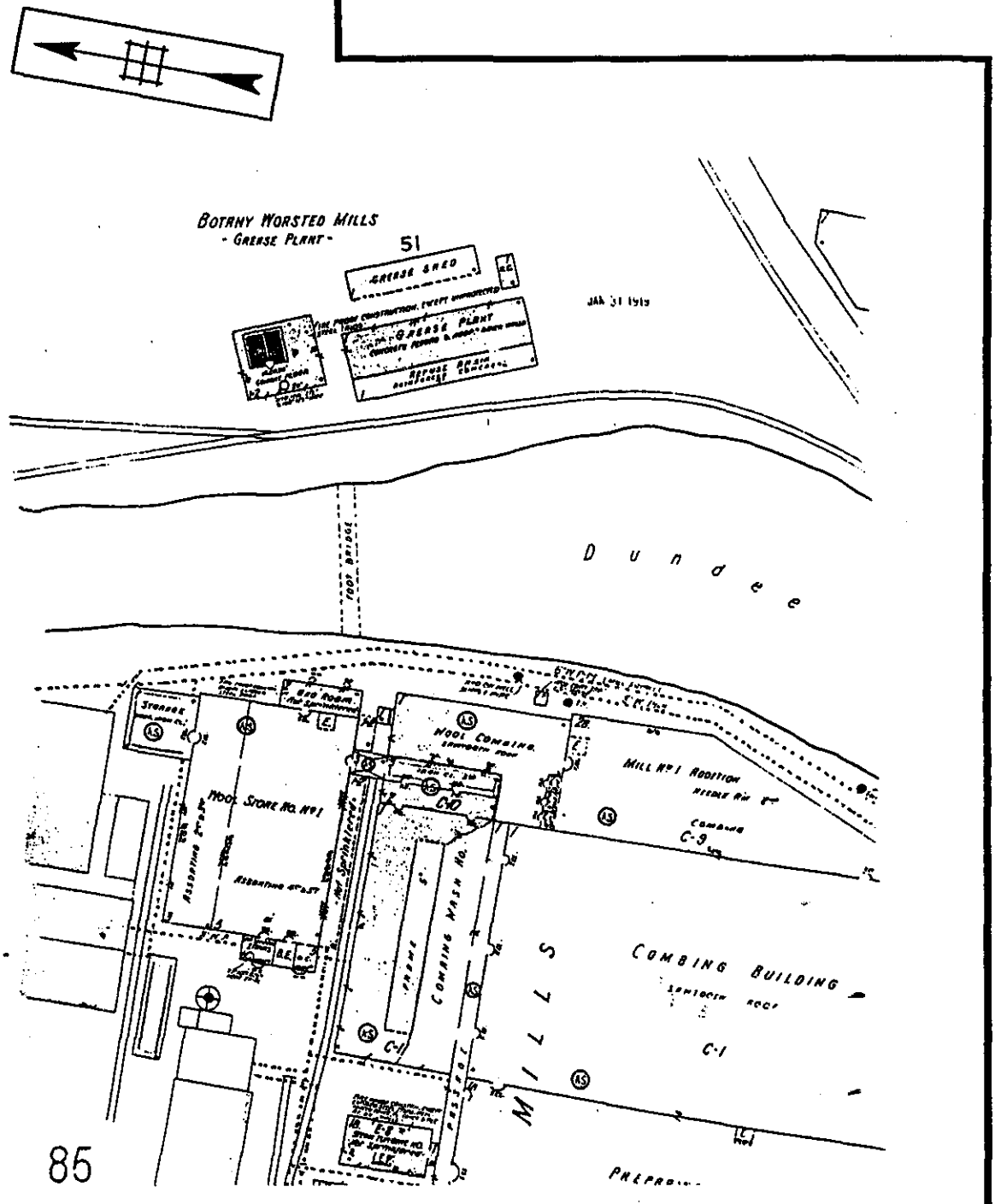


Botany Worsted Mills, c. 1899

SOURCE: Pope and Scott, News' History of Passaic, 1899



95-97 Dayton Avenue Site
- 1899 Sanborn Map



Botany Mills Lanolin Retrieval Site – 1918 Sanborn Map

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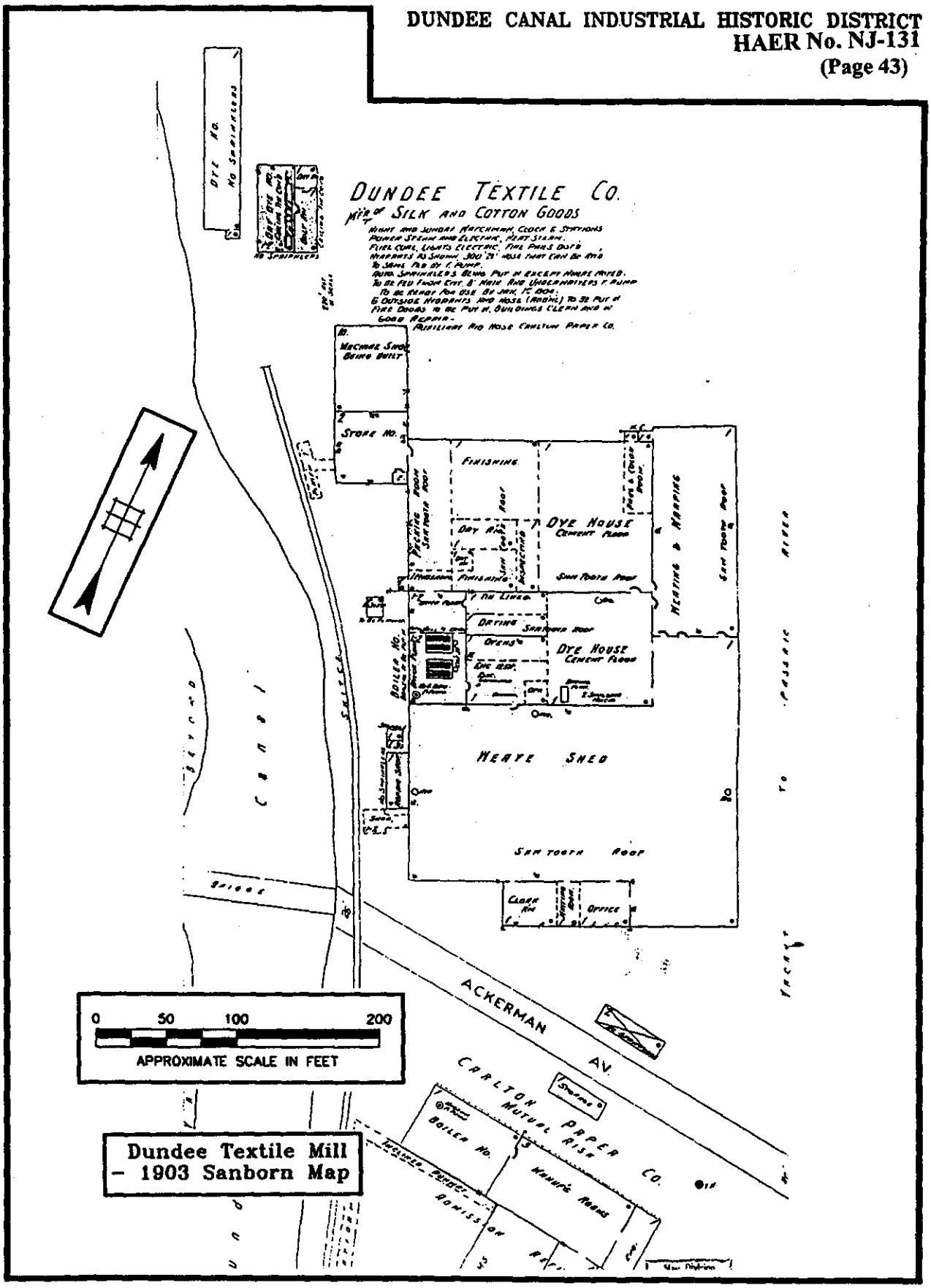

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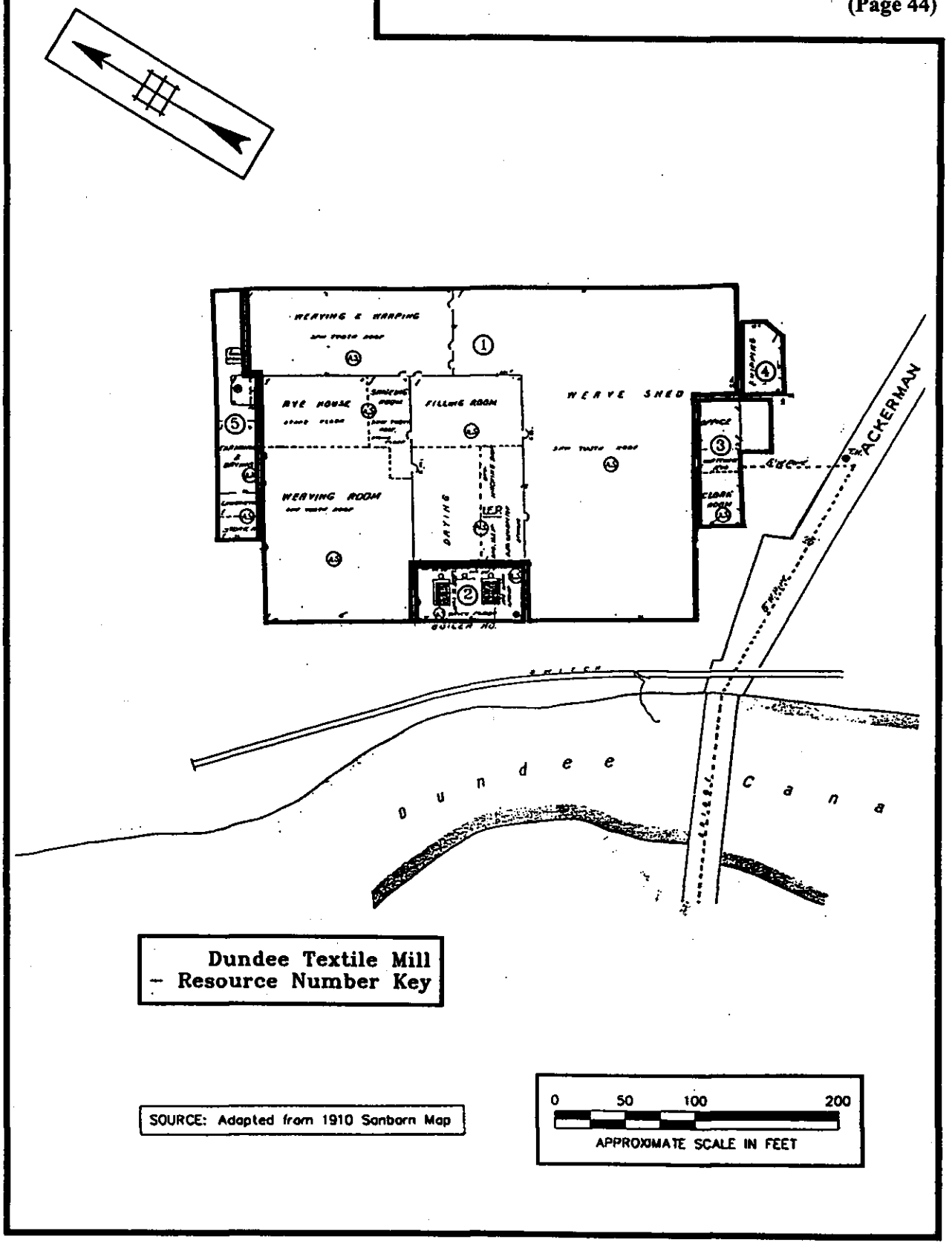

Dundee Textile Mill
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SOURCE: Adapted from 1910 Sanborn Map

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